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Agricultural economics: an educational and research agenda for nations in transition

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1. Introduction

The International Association of Agricultural Economists has recently been extending its activities by fitting in short meetings held between the familiar triennial conferences. After successful experiences in Namibia and Israel, a symposium was held in Kiev, Ukraine, from the 11th to 16th October 1993. The original invitation came from Dr. Peter Sabluk, Director of the Institute for Agricultural Economics of the Ukrainian Academy of Agricultural Sciences, Kiev, who received the support of the Academy and of the Ministry of Agriculture and Food of the Ukraine. This was enthusiastically pursued by Professor Csaba Csaki, the 1991–1994 President of the IAAE, who organised the programme in close consultation with Dr. Sabluk and his colleagues. This paper provides a summary report of the meeting.

The decision to hold a symposium in which there were over 60 speakers in a 4 day meeting presented the Association with some difficulty in adequately reporting its proceedings. The Executive Committee took the view that publication of an additional full scale English language book would be impractical. It was deemed more impor-

tant to organise a valuable meeting, in which there could be a wide exchange of views, and to provide only a summary report (albeit a long one) for the information of members at large. However, papers presented have also appeared, in their full versions translated into Russian, in a recently published book.¹

The choice of subject, *Agricultural Economics: An Educational and Research Agenda for Nations in Transition*, allowed discussion of a number of related issues. The nations in question face enormous challenges in adapting their agricultural and food systems to more open and more market driven arrangements. That, in itself, provides a major need for information relating to the way in which transition is being organised and for analysis of the problems and effects of change. Part of the information need was met by inviting speakers with first hand knowledge of the contemporary scene, able to deal with the *Urgent Problems*

¹ P. Sabluk et al. (editors), 1994. *Agrarian reforms in the Commonwealth of Independent States and Central and Eastern Europe Nations in Transition to Market Relations: Research and Educational Agenda*. Institute for Agricultural Economics of the Ukrainian Academy of Agricultural Sciences, Kiev.

of *Agrarian Reform*, mainly within the context of CIS countries. Thirteen contributions are reported, the longest being a broad overview from Csaba Csaki and Stanley Johnson. Apart from one contribution from Germany (Harm tho Seeth) the remainder (including the work of Peter Sabluk) are from scholars living in the Ukraine, Russia, Byelarus, Moldova and Armenia.

The next section consists of a *Comparative Analysis of Reform Experience*, extending the coverage beyond the CIS and drawing on the knowledge of seven speakers from a wider range of countries, not confined to Central and Eastern Europe.

It is followed by a review of *Educational and Training Aspects for Reform* which again includes contributions from varied backgrounds. Four deal with aspects of *Economic Theory*, and there are 11 contributions on the related subject of *Curriculum Development*. Attention then turned to *Experience in the Provision of Training Programmes* with five of the six contributions being from individuals and groups who have recently participated in various schemes aimed at international exchange of knowledge. The last relates to the use of distance learning in a broader sense.

The final group contains three *Concluding Comments*, including a synoptic view of the meeting from Professor Robert Thompson, and additional thoughts from Walter Armbruster and Peter Sabluk.

A list of speakers, their subjects, and detailed affiliations, is appended. Within the text speakers are referenced only by name and an indication of their affiliation. Space requirements sometimes dictate that the summary of their remarks must be briefer than in other cases. Other papers, available in abstract form at the symposium, are simply listed by author, affiliation and title. This in no way implies that some contributions were more valued than others; it is done simply for convenience in editing bearing in mind that there was some inevitable degree of overlap between papers. Since this does mean that detail is lost, members of the Association who wish to obtain fuller versions of those papers which were originally written in English can be supplied with the full addresses of contributors by the IAAE editor.

2. Urgent problems of agrarian reform

2.1. The background

2.1.1. Csaki and Johnson (World Bank and Iowa State University, USA)

A key background paper was provided by Csaba Csaki and Stanley Johnson in their capacity as participants in World Bank agricultural sector reviews of eastern Europe (EE) and the former Soviet Union (FSU). Their opening remarks related to the underlying situation in which agricultural sector reforms have occurred. Basically, the whole process of change has been uneven and probably slower than originally expected since the macroeconomic problems precipitated by transition were not fully anticipated. Advice by western macroeconomists, who were broadly in favour of rapid change, neglected the absence of the institutions necessary for the functioning of markets and was, in retrospect, naive. The result has been that nations have had to attempt agricultural reform in conditions of general hyper-inflation, budget imbalance, and balance of payments difficulties.

Two aspects of the introduction of price liberalisation in agriculture have been particularly troublesome. These stem from a contrast in approach in command and market systems. In the former it can be said that prices are used to distribute income, while government directives determine the allocation of resources. In market systems prices allocate resources and government directives, operating through taxation, subsidies and regulations, adjust the resulting income distribution to meet society's priorities. In transition economies there has first been a tendency to liberalise food prices more slowly than other prices; that is to attempt to use the price system still as a means of determining the pattern of income distribution. It has meant that in many of the countries prices are still not fully market determined, but in fact controlled to some extent by the use of government enforced indicative prices based on production costs. Furthermore, the other prices include those of purchased inputs for farm production. Since many of the latter were previously subsidised their rise has been

particularly steep, and the cost price squeeze on agriculture has been all the more severe.

The second problem concerns determination of relative output prices. Meat, in particular, has traditionally been cheap when viewed either against international standards or local production costs. That, allied to reduction in real consumer incomes consequent on the general economic situation, has impacted particularly on the meat sectors where there has been a collapse of livestock output in the period from 1990 to 1994. More generally when price comparisons are made (the easiest approach is through study at the retail level in state shops) wide disparities can be observed in relative commodity prices between countries. In Belarus, for example, in 1992, beef and milk stand at 41% and 36% of the corresponding values in Russia, but sugar and bread are at 104% and 137%.

Complicating the liberalisation of prices has been the presence of monopoly in both the supply of agricultural inputs and in food processing and distribution. In the former case state and privatised monopolies have behaved as expected; raising prices artificially to obtain rents and in some cases raising wages to compensate employees for inflation. It has been compounded since the FSU system concentrated production of some agricultural inputs in specific republics. Thus, the monopoly problems faced by agriculture in some of the new nations are not solely domestic; they have often resulted in outright shortfalls in supply and the emergence of grey markets, based on privilege and of questionable legality.

On the processing and distribution side, monopoly has limited the entry of new firms, preventing the growth of alternative outlet channels for agricultural production. In addition, governments have in many instances attempted to preserve the existing enterprises by subsidisation, allowing monopolies to persist as the only available channels for processing and distribution. Also, there is often a narrow farm-to-retail margin making entry, when allowed, extremely unattractive. New firms have therefore made little impact on the monopoly nature of the subsector. There has also been little incentive for attraction of foreign investment and related improve-

ments in technology. While a widespread view exists that natural endowments provide the potential for the EE and FSU countries to competitively produce grain, oilseeds and horticultural and livestock products, it cannot be over-emphasised that attainment of world market processing and preparation standards is an indispensable condition for external market access.

The preservation of older structures has also been evident in respect of trade arrangements. Trade between the nations of eastern Europe and the former Soviet Union was often at controlled prices, while links with the external world were in the hands of state monopolies which effectively still exist. There is a maze of licensing, centralised allocation, prohibitive taxation and numerous other trade limiting measures, which are far from transparent and in clear need of conversion to import tariffs or simpler export taxes. Efficient agricultural development is hindered by limits on participation in international markets, and by the failure to develop payments systems which would facilitate trade between the countries themselves.

The general conclusion which emerges is that price liberalisation and the development of markets is taking place in an unfavourable macroeconomic and trade context. It is hampered by the monopoly elements in the old structure, by the persistence of many overt or hidden subsidies which have the effect of narrowing the farm to retail price spread thus effectively reducing the incentive for new entry, and by a complex taxation system which is difficult to enforce.

Land reform and privatisation is also proceeding slowly. The establishment of independent private farms has begun, yet the present policies and legislative framework in many nations continues to envision state control and ownership of agricultural land. Unrestricted private ownership has not been generally accepted. Instead, in some nations, there appears to be the intention to keep private agriculture as a supplementary component of a farming structure based on large scale units somehow collectively owned. There is a preoccupation with farm size and the feeling that the large farms are more efficient. The authorities do not seem to be in a hurry to fully privatise

land, and requests for land by private farmers are limited. That stems in large part from uncertainty about future legislation on land ownership, the perceived risks of private farming under present macroeconomic conditions, the absence of competitive conditions in input supply and output marketing, and the problems of obtaining credit. Land has certainly been distributed to increase the area of part-time farms or household plots, though in most nations independent private operators have received only limited amounts and their share in total land use remains small.

Reform is mainly proceeding through the reorganisation of existing collective and state farms, in response to government decrees, directives, the setting of targets and of timetables for action, and a slowly emerging body of law. Nearly half have been reorganised into sub-cooperatives, collections of private farms, or closed joint stock associations. However, most of the units continue to rely on the old kolkhoz or sovkhoz structure for the purchase of inputs and sales of output owing to the absence of organised markets. As yet there are few signs of improvement in land use practices. Under the old system farm managers were concerned more with meeting their production targets than with preserving the natural resource assets of farms which they did not own. Heavy tillage and the lack of contour ploughing have resulted in soil erosion and water run-off. Distorted prices of chemicals and concentrated livestock enterprises also contributed to environmental problems. Some may be eased by re-structuring and stronger property rights, though it is clear that there is a need for active education and training if agriculture is to become more sustainable.

A similar pattern of re-structuring within the old economic order exists for many of the input supply and processing and distribution enterprises. Again the reorganisation is into cooperatives or closed joint stock companies. Enterprises still remain as the vehicle through which food subsidies are administered, while on the input supply side subsidies are a means of countering imports of requisites. There is great concern that complete privatisation could result in massive unemployment.

The kolkhoz and sovkhoz structures, even where partial transition has occurred, continue to retain considerable responsibility for social services. It is also true of other agriculture related enterprises. Schools, pensions, roads, health services, housing, and other needs are provided totally or in part within the kolkhoz and sovkhoz systems. Rural area municipal governments simply do not yet have the capacity to undertake such vital tasks, and also do not have the finance since taxation systems are underdeveloped. The need for complete reorganisation remains a major impediment to complete privatisation, which is further heightened by the fear of unemployment among those whose major task lies in the provision of social services.

The recommended agenda for further reform contains a number of elements:

- adopting measures to reduce inflation, including tough fiscal policy, rigorous control of expenditure to limit budget deficits, and tight monetary policy (these are general macroeconomic measures, though they would contribute greatly to agricultural progress as inflation, coupled with price control, is a deadly combination for the sector);
- freeing producer prices, replacing the remnants of the system of state orders by price incentives, ceasing the use of indicative prices and profit margins, and eliminating the practice of linking the supply of inputs to fulfilment of procurement quotas;
- beginning liberalisation of foreign trade, including the use of tariffs and export taxes instead of quotas, licensing and other less transparent measures;
- dismantling suggested retail price systems in favour of more targeted consumer subsidies in the form of direct income or in-kind transfers;
- ending limits on mark-ups for processing and marketing, and bringing the taxes on barter and commodity exchange income into line with a consistent value-added tax;
- phasing out producer subsidies linked to restructuring programmes and capping the cost of agricultural producer subsidies consistent with macroeconomic stabilisation targets;
- ensuring food supplies for domestic mar-

kets, monitoring food availability, securing food imports and ensuring the flows of essential inputs to stabilise output and moderate livestock production declines.

Price and market liberalisation must be properly sequenced. A summary of proposals is provided in Table 1. From the agricultural sector reviews it appears that the first phase has consisted of: (i) restricting the role of state orders to a narrower group and smaller percentage of products; (ii) loosening the relationship between delivery for state orders and input availability including credit supply; (iii) setting relative procurement prices to be more consistent with international prices and the domestic demand/supply situation; (iv) demonopolising input supply and product marketing enterprises and lifting regional responsibilities.

A second phase needs to be begun and instituted over a longer period. This would include: (i) reducing state orders to a lower percentage of production; (ii) using state procurement prices for a more narrow group of strategic commodities and as floor prices for producer security; (iii) entirely eliminating the relationship between delivery of product to the state and input supply; (iv) liberalising international trade of agricultural

commodities with the exception of strategic major raw products such as grain, meat and oilseeds.

The final phase would include fully liberalised prices combined with outward oriented trading regimes and government intervention only to prevent extreme price fluctuations. Targeted consumer subsidies would replace general forms of retail price control. Virtually all countries in some way subsidise producers or consumers of agricultural products. However, it is essential that subsidies should distort prices as little as possible and that policy makers know who benefits, both in budgetary and economic terms. In general direct budgetary subsidies are more likely to meet these criteria than subsidies hidden in exchange rates, administered prices, directed credit and segmented tax structures.

Given the magnitude of the economic shocks implied by full price liberalisation, increased energy and input costs, and changed social service responsibilities, the sudden elimination of government intervention could be unduly disruptive. Transitional support or intervention may be justified in order to increase the chance that potentially efficient farming operations will survive and restructure, but producers need to know that subsidies will be phased out over a short period

Table 1
Proposed schedule of agricultural price policy reform and subsidy reduction

Policy instrument	Short-term	Medium-term	Longer-term
State Order	Reduce to 30% except for selected products	Reduce to 30% for grain	Dismantle fully
Producer prices	Adjust relative prices to international market levels	Use state prices as floor prices	Minimise price intervention
Budget transfers	Dismantle	Dismantled	Dismantled
Input subsidies	Reduce in scale and scope	Confine to essential inputs or crisis situations	Eliminate
Input supply linked to State Order	Reduce in scale and scope	Dismantle	Dismantled
Credit subsidies	Dismantle linkage to state orders	Reduce to emergency situations	Limit to new or specifically targeted firms
Consumer price subsidies	Limit to bread, dairy, and products consumed by vulnerable population	Further limit commodity list and reduce the levels of subsidy	Fully replace with target transfers

and government must be credible. Moreover, a cap on the total cost of agriculture and food subsidies consistent with the overall macroeconomic stabilisation programme will probably be required. Only with the use of overall budget targets can a real dialogue on spending priorities and trade-offs be encouraged, and the budget discipline necessary for macroeconomic stabilisation be strengthened.

Many accompanying measures will be needed to increase competition in processing and distribution and in input supply. In particular the large agrokombinats, and most other monopolies and monopsonies should be dismantled. As an intermediate step these conglomerates can be organised as a collection of more independent privatised profit centres. Retail food outlets should be rapidly privatised by auction, tender or buy-out. A market oriented system does not require the state to engage in activities which can be carried out by the private sector; that is a vestige of central planning. The government really need take responsibility only for ensuring that an appropriate legal and regulatory framework is in existence which conditions but does not determine private sector activity. Governments do have responsibility for investment in physical infrastructure, and for social and educational needs, though that also is a matter of provision of conditions favourable to the operation of markets. Eventually also governments should encourage the establishment of a market-oriented, reasonably regulated, and competitive financial sector operating with interest rates at the levels prevailing in the rest of the economy.

External assistance is also required. The long isolation from, and unfamiliarity with, the workings of market economies, the shortage of foreign exchange, and the limited availability of modern and efficient capital goods in the domestic market are constraints to transition. Based on the experience of the agricultural sector reviews, external help is most needed for: (i) supply of critical inputs to prevent the collapse of domestic production systems; (ii) development of comprehensive and consistent agricultural policy frameworks, and restructuring of technical agricultural and financial services as well as the public admin-

istration of agriculture; (iii) implementation of the land tenure and enterprise reform; (iv) reorganisation of the agricultural input and output marketing systems; (v) rehabilitation and quality improvement in food processing; (vi) recapitalisation of reforming farm enterprises, and (vii) support of the education, scientific, and technical assistance systems in their restructured context.

2.1.2. Sabluk (*Institute for Agricultural Economics, Ukraine*)

Peter Sabluk provided a wealth of information relating to the process of change in the Ukraine over the short period since independence in August 1991, often echoing points made by Csaki and Johnson. In particular, he stressed the impossibility of progress in a macroeconomic background of great uncertainty about the rate of inflation and the future of the coupon-karbovonet as the internal unit of currency. What has become clear is that there are many types of currency in use within the country, not least the dollar and the German mark, and that the official ersatz coupon is not trusted and is certainly not used as a vehicle for accumulation and savings. It is impossible to make progress with market reform without a stable monetary unit. Already, a shift towards payment in kind and barter has taken place as the monthly rate of inflation could well be of the order of 35-40%.

Against that background little effort has inevitably been made towards agricultural price liberalisation; prices are governed by the state, and have been adjusted too slowly to match the inflation rate. In association with further specific problems of a rise in energy prices and the lack of availability of inputs from other republics the result has been insolvency in the collective and state farms and a collapse of output. In 1993 it was anticipated that output would decline by 15.7% of the average for 1981-1990, notably in meat and milk.

Land reform, of a somewhat muted form, effectively began only in 1992, being confined largely to the collective rather than the state sector. In Sabluk's view collective farms are going to be the main form of enterprise for a long period of time, though the property relationships

are altering by estimation of everyone's share in the public fund. Every farmer now becomes a co-owner of land and other means of production up to the individual share limit. However, despite the fact that some 71% of the collective farm land area has been dealt with in this way, it amounts as yet to little more than the registration of a claim on assets; the organisational form of the collective enterprises has changed little.

Share ownership, in effect, still preserves the alienation of farmers from the land which they use. According to the Land Code of the Ukraine private ownership of land is proclaimed but the mechanisms through which farmers could actually withdraw a share and begin private farming hardly exist. Sabluk was not greatly concerned by that, but he did point out that new forms of managerial arrangements in which share ownership is allied to self-governing mechanisms for the control of activity, and in which group initiative is rewarded according to results, were only slowly emerging. It is not surprising in view of the conservatism of rural people, the newness of the legislation, and the general situation of the country. He did, however, make the telling point that an evolutionary process towards that end is in full conformity with the national mentality and is preferable to thrilling revolutionary shocks. It was on that basis that he made his point about the probability that a collectivised, though modified, system would remain.

Particular worries were expressed about the physical state of equipment on state and collective farms, and in the processing and input supplying sectors. According to his estimates there is urgent need for investment equivalent to \$300 billion to raise the efficiency level towards international standards. He believed that labour productivity in farming is three to four times lower than in western countries, and that the gap in processing and distributing is four to five times. In the latter case he stated that 65 cents are added to every dollar of farm output in the USA, whereas the figure in the Ukraine is only 15 cents. The lack of investment is partly a legacy of the past, though it poses an acute immediate problem since the source of funding remains with the hard pressed state budget, and allocations are

falling. There is no other source of finance since the credit and banking systems remain undeveloped.

It has created a situation in which the Ukraine, with 50 million population and 42 million hectares of land, cannot feed its people, whereas the former Federal Republic of Germany, for example, had reached self-sufficiency in many products with only 17 million hectares of land.

Academician Sabluk also made interesting comments about the longer term future of agricultural price policy. He argued that 'the experience gained by many countries confirms the necessity, expediency and efficiency of state support to the farming sector, and we are going to make complete use of this experience'. In that context he expressed particular interest in the concept of parity prices borrowed from the United States, though he did state that the debate on the precise methods and extent of central guidance of farm product prices was only now beginning. In his view there is a difficult choice to make between the fierce competition of the open market and a measure of regulation.

2.1.3. Onischenko (Economics Institute, Ukraine Academy of Sciences)

The modern agrarian reform in the Ukraine is the fourth since 1861. The first agrarian reform of 1861 and the second, due to Stolypin (1907-1913), were concerned only with land issues and did not form components of broader economic reforms. The third land reform (1917) was an important component of the economic reform which was conducted in accordance with the ideology. As result, the small rural farms were destroyed and large collective and state farms were created.

Modern land reform in the Ukraine is again a significant component of broad agrarian reform, which includes not only land relations, but also the many other changes described in other papers. The main goal of the modern reform is to renew private property in land, as well as in other means of production. Two points of view have been represented in the debate on basic concepts. According to the first all adult citizens of the Ukraine should have equal rights to obtain

equal plots of land, though in fact it was not supported by rural inhabitants. The second point of view concerning land privatisation was that reflected in the Ukrainian Land Law. The priority for land ownership is given to those who work in agriculture.

A special fund has been created (in effect the stock of land) making up 7-10% of land currently in collective and state farms. The purpose of this fund is to extend private farms and develop collective gardens. There will also be a spare fund of land (15% of land in collective and state farms). The main purpose of this second fund is to develop private subsidiary farming. It is anticipated that around 20% of land will be fully privatised. However, more than that is involved. The aim is to reduce the area remaining formally as state property to only a further 10-15%, leaving around two-thirds in private-collective property in which workers have a stake in ownership. This point, already made by Dr. Sabluk, was reinforced by Professor Onischenko.

2.1.4. Lukinov (*Institute for Agricultural Economics, Ukraine*)

Academician I. Lukinov provided a considerable amount of statistical information relating to recent developments in the Ukraine, again confirming many of the points made by Csaki and Johnson. A particular point of his paper, however, concerned the issue of price reform. He pointed to some examples of shock therapy in which agricultural prices had become dominated by market forces, but argued that the so-called price liberalisation carried out in the huge territories of Russia, Ukraine, Byelarus and other new republics must be regarded as an administrative measure, having nothing to do with a free market conjuncture.

Agrarian producers who sell to the state at state determined prices suffer from deformation of their incentives since the rate of increase in administered prices is failing to keep pace with the rising costs of inputs. In numerous cases the state, faced with budget deficits, could not afford to pay producers even for material which had already been supplied. It therefore became impossible for the farms to finance acquisition of

the many inputs required to sustain their output. The consequent reductions in production were severe. Furthermore, agricultural products which were available were being purchased by speculators and re-sold to anyone prepared to pay high prices for them. It drained the marketing channels, based on the state procurement systems, of supplies. The difficulty in this case (it is an obvious problem in the Ukraine) really lies with the attempt to preserve systems of administered prices in an effort to maintain the out of date procurement mechanisms; products would probably flow more freely if that practice was to cease.

Professor Lukinov noted that many measures were in hand to overcome what he described as 'depersonalisation' within the production structure (i.e. the movement towards choice of organisational method within the collective sector). Simultaneously, there are changes in relative prices which must occur, notably in respect of energy where the Ukraine is heavily dependent on imports, and in other cases relating to prices of industrial and agricultural goods. However, what he described as an 'untalented' policy concerning price relationships, bearing down heavily on farming, was not only precipitating the immediate crisis in production but undermining the reforms relating to the ownership and control of property.

Comments were made about the lack of uniformity in agricultural and processing enterprises. About one quarter of the agro-industrial complex included farms with a high level of land productivity and stock raising expertise, well developed production and social infrastructures, close links with processing and good management. They were surviving the crisis and appear to be dynamic. Depersonalisation of ownership, which is proceeding, should ensure their future. A further group of around one half the total, by Ukrainian standards, operate at medium levels of efficiency. The most severe problems are found in the remaining quarter where, despite state financial backing and frequent cancellation of their debts, there are low levels of productivity and technology and management is defective. That substantial sector appears to demand the most radical change, probably based on privatisation down to the level of cooperative and individual farming.

Industrial enterprises could be sold by auction, also allowing in foreign investors.

Finally Professor Lukinov stressed that creation of more efficient economic structures is far from being a matter of passing a limited number of legal acts which do no more than remove the old system. It is a longer evolutionary process of forming new proprietorships, new institutions, new external trade relationships and a great deal of development from below.

2.1.5. Nikonov (Agrarian Institute of the Russian Academy of Agricultural Sciences, Moscow)

Academician A.A. Nikonov recently contributed a paper to a meeting of the American Agricultural Economics Association (AJAE, Volume 75, No. 5, December 1992) in which he described a number of features of the Russian situation, including the process of transition in relation to land holding. His Kiev paper updated the information. As of 1 January 1993, the Russian agricultural land area was 223 million hectares, of which 73 million (33.6%) remained in state ownership. Collective ownership (often with a changed format) was of 130 million hectares (58.3%), with private ownership accounting for the remaining 18 million hectares (8.1%), though the size of these holdings remains small.

The main purpose of the presentation was to describe a major survey undertaken by the Agrarian Institute into attitudes to land re-allocation among those affected in one way or another. This suggested that, in principle, 53% of rural inhabitants are in favour of private land ownership, 30% are against, and 17% remain undecided. However, only 5–6% (for Russia that means no less than about 500 000 persons) wished to become farmers in the next 2 or 3 years. They were mainly young people with a medium or higher level of agriculture related education, or qualified workers who already possessed relatively solid personal subsidiary holdings which already provided substantial proportions of family income. They were mainly those born in rural areas and were seeking the freedom to work without command, to ensure a future for their descendants, and to gain both higher incomes and prestige.

Urban people are interested only in small gardens, orchards or space for house building.

The contrast between the 53% in favour of private land ownership and the 5 or 6% who expect to make such a move in the near future is accounted for by a variety of factors. Difficulty in acquiring machinery and lack of finance were cited in 80% and 78% of cases respectively. But risk (71%), lack of legal guarantees (67%), and fear of losing social guarantees (41%) were also prominent. These will be familiar from the paper by Csaki and Johnson. It was interesting to note, however, that 40% also reported lack of availability of suitable land owing to the relative slowness of the reform process.

Nikonov stressed that the macroeconomic situation was in large measure responsible for deterrent effects, though he was able to point to success stories in private farming, particularly where the new farmers were able to develop their enterprises alongside collective farms so that they had some continued access to marketing channels, input supply, and the physical infrastructure and social services (including roads, schools and hospitals) still largely provided by the collective farms. He also introduced a new element into the debate by stressing the need for the voluntary development of cooperative organisations able to reinforce the production efforts of private operators.

Among his points he provided a moving description of the history of the land question in Russia (there are similar expressions in the AJAE article) and of the long struggle to again reach a situation in which land ownership met with official approval. It was around that issue that the Agrarian Institute survey had been concentrated. However, his enquiries among the rural population had been supplemented by subsidiary analysis of the attitudes of a substantial number of officials of the Committee of Land (the body responsible for implementing change). Nowhere (either among officials or peasants) could he find enthusiasm for working under thorough going market conditions. The main issue was still that of access to land and the right to hold property. Questions relating to the detailed future mechanisms of determining prices of agricultural prod-

ucts were not being considered with nearly so much immediate intensity despite the current difficult situation on the prices side.

2.1.6. Boev (All Russia Institute of Agricultural Economics, Moscow)

Academician V.R. Boev, again speaking of the Russian situation did, however, begin to open some debate on the pricing issue. He first reiterated the point made by other speakers, namely that the agricultural terms of trade had worsened considerably in the first stages of reform. However, the changes were markedly different with respect to individual products. Supporters of price reform started with the good intention of providing signals which would stimulate production growth according to market demand, though in the event there have been alterations in relative prices the shock of which appears to have been disruptive rather than helpful. Producers of grain and sugar beet have been less affected by the general inflationary process than those of oilseeds and, particularly, of animal products. He asserted that this was in breach of the principle of natural value exchange and took little account of the immediate interests of producers who were too often placed in a difficult financial situation, and of consumers who were unable to obtain a balanced diet. Disruption also extended to input supply, notably of machinery, largely because the farms were unable to meet the costs involved. He asserted that little progress would be possible against such a background.

The immediate situation appears to demand that the state should guarantee prices, indexed according to inflation, on amounts of production determined by supply contracts. That should be coupled with limits on the price increases of monopoly suppliers, particularly of tractors, combines and important services. A transition period would allow recovery to occur under more normal conditions of farming. Once achieved it might then be possible to move towards truly free market prices settled on the basis of demand and supply in open food markets. However, Academician Boev also took the view that many problems would remain which would not be solved by action on the pricing side alone. He urged first that

there were many issues relating to taxation and the supply of credit which should be regarded as in need of simultaneous attention. Second, there was need for direct government expenditure on social regeneration of the countryside, reclamation and improvement of land, resettlement, and the stimulation of scientific and technical progress. In short the reconstruction of agriculture cannot be allowed to depend solely on prices.

2.1.7. Shpychak (Institute for Agricultural Economics, Ukraine)

Price policy debate continued in the contribution of Alexander Shpychak, who argued that the system adopted in the Agro-Industrial Complex (AIC) of the Ukraine must be regarded as a key component of the whole pricing mechanism of the national economy since, in the country, the agriculture share of the gross social product amounts to 40%. About 70% of consumer goods are based on agricultural products.

There is little doubt of the necessity for carrying out profound economic reforms in the Ukrainian AIC involving transition to market ways of management. The cogent argument in favour of it is that we, possessing enormous natural resources and having the opportunity to take a leading position in agricultural export markets, are still not able to solve the problem of food staple provision for our own population.

The key task lies in formulating a pricing system which will adequately reflect basic economic realities, serve as a regulator of production and ensure that all necessary costs are covered. The price model based on the concept of average cost (full cost plus a profit margin reflecting a normative level of profitability), which was widely used under the administrative and command system of management, cannot cope with the tasks ahead under transition toward the market economy. The model in question does not reflect efficiency in the use of capital since it is based only on current expenditures in production. Characteristically, price formation in this way involves adding profits to the costs of production, stage by stage through the production system. It can be described as an 'expenses based model of pricing'.

Conceptually, the pricing procedure in the AIC

needs to be modified under market economy conditions. It cannot be rooted in costs of production since it should also take into account the retail market prices of the appropriate final products. The retail price needs to be discovered in the market under the influence of supply and demand. It does not mean that prices should be formed without taking production costs into account. The producer of a commodity needs to systematically compare market price with costs. That makes him permanently seek to decrease production costs and improve product quality, which is the main factor underlying market economy efficiency.

While it may appear that production efficiency is ensured only under completely free pricing there are qualifications which are particularly relevant in a situation such as that faced in the Ukraine. First, free pricing is only efficient in a specific type of economic environment which has yet to be created. It would involve privatisation and the assignation of state property to other proprietors, antitrust legislation, availability of competition, legislation for property protection, social guarantees, and the supply of information to agricultural producers. Secondly, even in countries with a highly developed market economy, completely free pricing is rare, especially for agricultural products. Since the market economy has both creative and destructive powers, the latter need to be restrained. Consequently, it is unreasonable to suddenly introduce completely free pricing for farm products. Therefore, free prices have to be introduced step by step following the creation of a new economic environment and with some regulation by the state.

The basic issue is one of adjusting prices which would serve as initial reference prices of staple farm products, similar to the target prices which are common in countries with highly developed market economies. Their determination is the problem. To approach that modifications are needed in our own system, though the basis should remain with costs of production allied to a profit rate. The modification is in the latter. Under market conditions the ratio of profit to capital (i.e. the rate of return) acts as an efficient regulator of production, hence that is the starting point.

General use of this pricing model, which requires active markets for capital and for fixed resources as well as for agricultural and food goods, would set all branches of the national economy on a similar basis.

Introduction of a new pricing system requires urgent solution of a number of problems, notably the valuing of fixed and current assets and their distribution among each type of product. We also realise that land values should be introduced, though prior to the introduction of a land market this remains problematical. Determination of fixed capital values could be done by subtraction of depreciation from production cost. Working capital can be valued using available statistical information. For the quantitative determination of the profit rate to apply in agriculture two variants could be considered. First, the rate of profit could be equated with the existing minimal loan rate with an allowance for risk. Second it could be equated with the profit rate in industry (26%). Because of the instability of the minimal loan rate due to inflation we preferred the second alternative. This is also justified since we believe that agriculture in the Ukraine should not be placed at a disadvantage. However, though the principle appears to be defensible, there are problems in defining the rate of profit (or rate of return) accruing to agricultural production. For example, it can be artificially raised if in-kind transfers to farm workers are valued at unrealistically low values, and also raised (given inflation) if requisites purchased at the beginning of a season are not appropriately re-valued when the final end-of-season calculations are made.

In our research we attempted to put the conceptual approach to the test by using our own estimates. For this we revalued assets, deducted all other costs, and applied a profit rate of 26–30%. The results suggested that in 1992 there was a large adverse gap between the profits actually recorded in Ukrainian agriculture, at the prices then being realised, than our calculations would suggest as being appropriate.

If a more appropriate method of price determination could be introduced on the lines suggested it would be important to ensure that agricultural products were not placed at a disadvan-

tage due to inflation. A system of indexation would be needed. While this could be regarded as an anti-market measure it would impart confidence to agricultural producers and prevent the continuation of the situation which now exists due to the adverse movement in the terms of trade.

We have also studied the issue of the exchange rate because of our interest in international absolute and relative values. According to our calculations per capita production of farm products in the Ukraine amounts to \$780 per annum valued at world prices, which is 30-45% smaller than in the USA. The official exchange rate for the Ukrainian karbovenets suggests that it is smaller by a huge 10-15 times.

2.1.8. *Lugachov (Moscow State University, Russia)*

In foreign literature relating to Russia's transition some attention has been paid to consideration of the necessary institutional infrastructure which needs to be created and to the time which that would need. In Russian publications these issues are virtually neglected, hence Professor Lugachov attempted to contribute to the filling of the gap. Features necessary for effective economic activity involve security, ownership of property, and freedom of entrepreneurship, which are considered in turn.

Security has a number of dimensions including individual security; the security of enterprises; the security of contracts, and also environmental protection.

At the level of the individual, security is a dominant wish, without which activity cannot be sustained effectively over a long period of time. At the highest level it includes the legal preservation of human rights; but also extends to the protection of health, and security in the case of illness and age. At the enterprise level security presumes protection of fixed and current assets and the legality of contract. More than that, however, it also requires freedom from exploitation by monopolists with whom dealings are made, including government monopoly. Extending the principle it is well known that economic activity can have undesirable consequences on the environment. To help in solving this problem, inde-

pendent community commissions and legal institutions should be authorised to regulate the business activity of any enterprise that can affect the environment.

Ownership is clearly partly subsumed under security. In agriculture it is useful to distinguish between:

- land and immovable that are used for production needs;
- working capital, including machinery and other requisites;
- farm products themselves.

While property rights have to be defined it is also important to consider the mechanisms through which ownership is obtained and the rights associated with it. The reason for this is that ownership also carries obligations for the wise use of resources, hence its exact form is of importance. There are hazards in the free distribution of property, which is claimed to be the preferred way by farmers' rights organisations. A better alternative, particularly in the case of land and immovables, would be a form of sale by credit, possibly secured by the obligation to deliver farm products for a period of time prescribed by law.

Agrarian reform in China provides a good example. An incredible increase of productivity has been achieved by the transfer of land to peasants for life-long responsible usage, rather than by outright privatisation. This land transfer was ruled by written regulations that allowed those initially allocated land to give it up (really, to sell) the rights of usage to third parties. According to the laws, a Chinese peasant has to submit 10% of farm output to the government. Having paid this tax in kind, obligations are regarded as being fulfilled. Remaining farm products are supplied to the market, where the outcome is determined by the relationships between demand and supply, and by the seller's skills.

It is less satisfactory to engage in hard-driven privatisation such as that which took place after the decree on sharing of agricultural enterprises, issued by President Yeltsin in June 1992. The consequences of this approach are now becoming clearer. By 1993, of a total of 32 083 collective and state farms in Russia, 52% claimed that they

had been reorganised, yet more than half kept their form and structure unchanged. Of the others, 944 (3%) have been transformed into associations of individual farms, 5644 (18%) have become joint-stock companies, and 1725 (5%) have changed into agricultural cooperatives. The feature to be underscored is that 26% of farms (half of the 52%) have been privatised on paper only, having as yet changed nothing in labour organisation and its motivation. Ownership changes of that form do not provide those who really wish to take on obligations with any superior claim over those who intend to remain passive. Similar remarks apply to working capital.

Farmers' rights to receive the value of their production have also frequently been violated in Russia since 1917 owing to the institutional arrangements which existed in the country. Explicit robbery of peasants by the government by arbitrary rules over prices and delivery also made a poor contribution to the increase of labour productivity. Legal definition of secure rights is needed to overcome that difficulty.

Freedom of entrepreneurship is also vital, not least as a result of the highly specific business mentality (or perhaps lack of it) of the major part of the population that has been characteristic of the country. Years of suppressed initiative in all branches of agriculture, as a side effect of the centralised planning system, have resulted in farmers having a feeling of dissatisfaction with their work though, at the same time, it is allied to a rather comfortable feeling of irresponsibility. Part of the cure for the malaise lies in personal security and the revival of a sense of ownership associated the definition of proprietary rights. It would be bolstered by fostering the right to personal choice of participation in any legal enterprise, by freedom of choice of occupation, and by the right to make personal choice of business partners.

The period of time needed for transition to market structures in the Russian agricultural sector is an even more complex issue. The answer depends on the type of change concerned. For example, while laws take time to formulate they can be passed relatively quickly; the process is one of only months. However, there can then be

a further lag while administrative processes are created and made operational. Professor Lugachov quoted examples of privatisation after German re-unification and in Hungary, which have not proceeded as quickly as first envisaged. In Germany only about 50% of property included in privatisation plans due to be finished in 1994, had been dealt with by January 1993. Hungary, the veteran of privatisation in eastern Europe, managed during 1991 to transfer only 10% of all fixed assets, and is planning to privatise an additional 80% only over a 5 year period. Even that, however, is a short time span compared with the generation which Professor Lugachov estimated as being the period needed for the gradual cultivation of a spirit of entrepreneurship.

He did not find it surprising that many possible forms of ownership and of enterprise structure are coexisting in the initial stages of transition, and that they often involve business and technological cooperation between state and collective farms and those nearby who are beginning their steps towards becoming settled private operators.

2.1.9. Demyanenko (*Institute for Agricultural Economics, Ukraine*)

Some broad issues relating to financial matters were considered by Professor Demyanenko, thus introducing questions which had not been the focus of significant attention. He pointed out first that public finance needed to be placed on a firmer basis by the design of an adequate tax system. In the Ukraine the mechanism was being created on a trial and error basis and being viewed primarily as a means of raising the necessary government revenue to meet the critical budgetary situation. Little thought had been given to the point that a tax system, in itself, has other functions, partly relating to distribution of income but also concerning the provision of incentives. The manner in which taxes are raised has not been considered in that light and the influence on the efficiency of production is minimal. In particular the income tax should be conducive to encouraging commodity producers to increase output.

On the expenditure side specific problems are

also apparent in agriculture owing to differences in the treatment of state and collective farms. The former have received considerable support and have generally not faced financial difficulties. Collective farms, by contrast, have experienced regular deficiencies in the funds which they have available for the replacement of current assets and have often been granted government credits, which were then regularly written off. Hence the credits, in effect, became a type of budget financing. The lack of real constraints has resulted in poor financial management which does not provide an adequate basis for operation in more market oriented conditions, and the system needs to be transformed in order that control should become firmer.

That does not mean, however, that there should be no government budgetary assistance to agriculture. Countries with highly developed market economies also often have well organised mechanisms of financial protection of their agricultural producers. This type of mechanism should be available to Ukrainian agriculture. It is particularly important at the present time since the harmful effects of price liberalisation in its current form have been severe. There is a place for subsidies and subventions to agricultural production, though it should be the responsibility of agricultural enterprises to manage their own finances within a consistent framework of government support. To achieve that there is a need to develop a financial mechanism through which they can settle their own accounts and borrow where necessary.

2.1.10. Harm tho Seeth (University of Kiel, Germany)

A useful contribution to the debate on the Russian situation came from Harm tho Seeth who distinguished between the reform of agricultural policy *per se*, which he regarded as being mainly concerned with the production side, and obtaining food security for the poor. He analysed the changes which are occurring on the policy side, but concluded that scant attention has been paid to the food needs of the growing number of unemployed, of pensioners and the sick, and of those who, though in work, are the recipients of

low incomes. There is a well accepted general point in the food security literature that policies to improve the situation must go beyond direct food and agriculture related measures and encompass wider scale policies which have implications for employment generation and income redistribution. There is no guarantee that apparently sufficient aggregate availability of food, either from domestic resources or from imports, will result in its satisfactory distribution throughout the population. Another important rule is that aggregate availability at the farm level can itself be a poor indicator of supply to consumers if the organisations within the food chain are operating ineffectively.

His own efforts to attempt to discover relationships between the total availability of food, the prices associated with its sale, and the consequences for vulnerable groups had met with little success due to the paucity of available statistics. In short the social dimension of the debate on transition is one which is most notable for its absence.

2.1.11. Krestovsky (Institute of Economic Problems of the Agro-Industrial Complex, Byelarus)

Although slow, economic reform in the Byelorussian agro-industrial complex is now under way. As the first steps of transition to a market economy have revealed, the agricultural sector seems to be the most vulnerable, for a number of reasons. Among them are the anti-market mentality of the rural population and the distorted system of state support and the poor price policy of the government. The first stages have also been taking place in a period of unfavourable weather conditions. In combination such factors account for the considerably decreased supply of some farm products in 1992.

Privatisation of state property, through its transfer to non-government agents, is one of the most important elements of the agrarian reform. In general, this transfer is conducted as a long-term lease, with a subsequent sale of the state property to the those holding a lease. Privatisation is handicapped by lack of a well-formulated concept of government property re-assignments and by difficulties in the legal environment. The

Byelorussian law on Government Property Transfer and Privatisation is somewhat abstract and hence it has not taken into account all the problems of the agro-industrial complex.

Under the current programme the agribusiness service enterprises are the first to be subject to privatisation. Property of the farm product processing enterprises will be re-assigned according to the existing level of monopolisation. Those enterprises which have a nation-wide monopoly (e.g. sugar and condensed and powdered milk factories), are to be transformed into open joint stock companies with a considerable part of the shares remaining in the possession of state. The enterprises predominately serving administrative regions (e.g. flax and dairy plants) are to be transformed into closed joint-stock companies whose shareholders may include collective groups of employees, the state, individual farms, and suppliers of raw materials.

The most effective form of privatisation in the agro-industrial complex is likely to be achieved by combining the privatisation process with transformation of both farms and farm product processing plants into market-oriented enterprises. Irrespective of ownership, there are two possible ways of operating agribusiness; the individual one, which occurs when a single person plays the role of a market agent, and the collective form, when the business is run by a few owners on a cooperative basis. The state can, of course, be regarded as a single owner.

A main purpose of agribusiness enterprise reform is to preserve business structures which are based on existing enterprises. This will prevent the destruction of technical competence. However, when privatisation occurs it is important to create favourable conditions within the enterprises for business initiative to be fostered. It is also possible to allow new businesses to develop based on all potential forms of ownership.

Reorganising collective and state farms will be implemented by transforming them into open or closed joint-stock companies, into cooperatives (i.e. collective enterprises), or by splitting them into a set of individual farms and small enterprises that may be voluntarily united into associa-

tions. In some places, where it is economically worth doing, large farms may be decomposed into units. Every unit can then be reorganised at a later stage according to its own scheme.

As a result of this transformation, the structure of Byelorussian agriculture will be represented (in terms of area, and by numbers of individual farms) by the following organisational forms:

- reformed collective and state farms, 70–80%;
- agricultural associations, 7–8%;
- collective and state farms with regular structure, 15–20%;
- individual farms, 9000–10 000.

The success of the Byelorussian reforms will depend on formulating legal, organisational, and economic mechanisms that will regulate the operation of the reformed state and collective farms. As in the agribusiness sector it is not intended to engage in large scale destruction of existing enterprises; the aim is to change their internal mode of operation. However, an attempt will be made to establish favourable conditions for the formation of a controlled land market and the creation of land leasing and credit systems. These tasks must be performed by guaranteed and legal transfer of land to agricultural enterprises, which effectively will hold land. That is the aim of the recent Byelorussian law on land property rights. However, regrettably, it also restricts the size of land lots for rural households, private houses, and rural gardens, which can be in individual private ownership, to only one hectare. This will obviously constrain individual farm development founded on rural households and make it quite ineffective.

The first stage of the agrarian reform in Belarus has resulted in nothing except a considerable decrease in production. The reasons are similar to those affecting other new republics. If this uncontrolled movement continues the majority of collective and state farms will face bankruptcy. While that, in itself, would provide a powerful incentive to reorganisation and to the release of physical and human resources which are effectively unemployed, it does appear that transition to a more effective system requires a

mechanism of control able to make farm business operation, whatever its form, more secure and attractive. We have not gained any experience of this sort. In some other countries protectionist policies are in place which appear to recognise the need for there being an equivalence of exchange of farm products for non-farm commodities needed both for personal consumption and for input requirements. While that may not be easy to achieve in our conditions there is a need for indicative price planning and control which would preserve security. It should, however, be flexible enough to allow timely response to changes. Our first experiences of transition have shown that our knowledge has not been sufficient for us to solve our problems. In particular we have not been able to find an optimal combination of centralised and de-centralised management. It remains a major issue for the future.

One particular feature hampers our efforts both in economics and science. In the Republic of Belarus, as well as in other republics of the former USSR, there is now limited financial support for all forms of research work. This has brought low wages, a decrease of the prestige of research, lack of security, and a brain drain. During 1992 the staff of the agricultural research institutions decreased by 17%. Under such circumstances, preserving the potential for scientific support to the agrarian reform is becoming impossible. Now more than ever we need to improve our research input and to establish broader international cooperation.

2.1.12. Chertan (Research Institute of IAC Economics, Moldova)

The formation of market relations is the main objective of the present economic strategy in Moldova. Transition involves two closely connected processes:

- demonopolisation, or assigning state property to non-governmental agents, and privatisation with the aim of establishing the material basis for provision of economic liberty and promotion of entrepreneurial activity in the agro-industrial complex;

- formation of an effective economic system able to provide opportunity for comprehensive development of all organisational forms.

According to the Concept of Agrarian Reform and Rural Social and Economic Development, approved by the parliament of Moldova on 15 October 1991, the peasant household is deemed to be the primary unit of production organisation in the agricultural sector. That feature provides some contrast with the path being taken in other republics. The process of peasant farm creation is accelerating. Thus, in the middle of 1992 there were 284 peasant farms, in early 1993 there were 491 and by June 1993 their number increased to 6405. By the end of the year it was anticipated that their number could reach 25 000-30 000. These are truly privatised enterprises (in effect, land is given to peasants with accompanying secure title deeds, as additions to the private plots which they might already own) though their size is very small. For example, the 491 farms of early 1993 averaged only 2.8 hectares.

Clearly that provides a strong motive for owners to cooperate, as in fact is happening. While preserving their right of ownership farmers are forming associations either to use their land in combination, and to begin to set up cooperative processing enterprises. The formation of such associations is being viewed as a key direction of further development, though it will clearly cover only a relatively small fraction of Moldova's 1.5 million hectares of farmland. Hence, the next issue is that of the future of collective farms.

The first problem which appears in the process of reorganisation of collective agricultural enterprises is that of basic appraisal of ownership claims. This is carried out according to the 'Methodological instructions on enterprise appraisal' adopted by the Decree of 30 April 1992. Calculation according to this method envisages that value is determined using a set of appropriate coefficients to apply to each individual element. In the case of assets which depreciate over time valuation has to be done on the basis of the residual value of assets, taking into account the length of their useful remaining life. The problem is that building up a total on the basis of the value of many items tends to ignore the fact that in reality the unit for reorganisation—the agricultural enterprise—is an indivisible complex which is potentially of considerably more valuable than the totality of its constituent parts. However, there

appears to be no other way in which the share of each member of a collective can be determined.

The second problem is that shares have to be adjusted on the basis of the labour contribution of each individual. There are several suggested methods. The average annual wage over a number of years can be multiplied by the worker's length of service in the farm and the personal share allocated on that basis. An alternative is to calculate the individual's aggregate wage over the total period of service; the total thus arrived at can then be divided on the basis of each person's contribution towards it. Progress is now being made to determine both the aggregate values and the shares claimable by individuals. Inevitably, however, much remains to be done since the agrarian reform is so recent.

The next step is that of deciding on the organisational form to be adopted by formerly collective enterprises once the determination of ownership shares has been accomplished. One of the possible ways is that of joint-stock company formation, but with land being regarded as personal property, on the basis of the relevant valuations, to be jointly used on agreed terms.

Similar steps will apply to enterprises which process agricultural raw materials or supply inputs to agriculture. Joint-stock companies appear to be the appropriate organisations.

A range of internal organisational matters, which could vary between or within farms and enterprises, remain to be settled. Decisions need to be made in each case about the degree of specialisation to be adopted; the composition, size and number of internal subdivisions of the enterprise; the numbers of staff required and their qualifications; and not least the way in which the functions and accountability of management are to be decided and met. That will be particularly important since there are so many decisions which need to be taken relating to marketing and financing in a more market orientated economy.

2.1.13. Kasaryan and Mkrtchyan (Research Institute for Agricultural Economics, Armenia)

Elections held in mid-1990 brought a new government to power which abolished the uni-party framework, ended the command-planning system

in the economy, and proclaimed the Republic of Armenia as a sovereign national state.

One of the paramount problems faced by the government was the determination of a new agrarian policy. In February 1991 three resolutions were adopted: The Law of the Armenian Republic on Individual and Collective Homesteads, The Land Code of the Armenian Republic, and The Law on Property. These laws envisioned the emergence of individual and collective homesteads on the basis of the liquidation of state and collective farms and privatisation of their land and means of production. Pedigree herds, seed growing properties, nursery farms, cattle-breeding farms and experimental units of scientific and higher educational institutions, were regarded as being of public importance and were not privatised.

The laws mentioned above were the cornerstone of agrarian reform in Armenia. On their basis the government adopted more than one hundred legislative acts and resolutions in 1991–1992. In the first year of reform the collective and state farm system was basically abolished, and individual and collective homesteads emerged in their place. On 1 July 1993 there were 129 state agricultural enterprises, seven collective farms, 277 700 individual homesteads and 4200 collective homesteads. In privatised farms, up to 20% of land was set aside for leasehold to allow some opportunity for reallocation. Under the new system of land use, the key farms are the individual homesteads. They have 61% of arable land, 55% of perennial plantations, 56% of hay meadows, 78% of beef cattle, 91% of dairy cattle, and 61% of tractors. Together with collective peasant farms the share of the private sector is considerable.

Land reform in Armenia has effectively been accomplished within two years. This entailed radical social and economic changes in the rural area. Instead of being workers on state and collective farms, a new class of small-scale producers, making up a significant share of the peasantry, has emerged. At the same time a market for agricultural products began to function.

The sudden agrarian reform, in spite of its irrefutable advantages, had a number of unfortunate consequences. For example, since each

villager received a land allocation, irrespective of their relation to agriculture, it resulted in emergence of extremely small farms. The average farmland area per homestead in July 1993 was only 1.3 hectares, with a mere 0.9 hectares of cropland. The collective homesteads averaged 17.9 hectares, including 12.5 hectares of cropland. It is very difficult to obtain a high level of marketed output from such small farms. In addition the material and technical basis of the Republic's agriculture, including the irrigation system, is adapted for large specialised farms rather than for small diversified farms. During privatisation the supply and service structures in agriculture were neglected and the industrial and social infrastructure in rural areas was not maintained. Having received land and means of production the occupiers remained alone to face chaotic market conditions. Economic processes, such as supply, pricing, and product sales, were out of the control of the state, and effectively broke down. That was not helped by the changes having taken place in a period of financial and energy crises, transport breakdowns and complicated relations with neighbouring countries.

Hence although the majority of peasants have received their land allotments, and have become owners and free workers on their own land, they lack small machinery and have to cultivate manually. That, along with a weak infrastructure and the absence of strong market relationships, has meant that the Armenian peasantry has been thrown back in its development. It has compelled the new farmers to concentrate, first and foremost, on providing basic food items for their families. Those in others occupations have also faced the inevitable consequences of a decline in food supply, high prices, and an idle processing and marketing sector. The former system of state control of supply of bread and other food staples has not proved easy to replace in the time available.

As an integral part of the whole Republic's economy, agriculture is undergoing a deep crisis including radical social, economic, organisational and psychological changes. Nevertheless, there are signs that the new type of Armenian peasant-producers and entrepreneurs are begin-

ning to adapt to the new conditions and that the necessary market relationships are appearing in the rural areas.

Our research at the Institute for Agricultural Economics is also changing. A completely new meaning attaches to such fundamental issues as effective management and use of labour in new farming conditions, the needs for adaptation in the financial, credit and taxation systems, and the development of marketing. There are also complex problems relating to land tenure because the entirely new system of ownership means that land transfer and leasing assume significant importance. Under our programme for an Agromodel-2000 we are attempting to investigate the key economic and technical issues which we face in an uncertain future.

3. Comparative analysis of reform experience

3.1. Hunek (Polish Academy of Sciences, Warsaw)

The countries of Central and Eastern Europe (CEE) are undergoing a complex process of reform, or system transformation, from real socialism and a centrally planned economy to systems based on parliamentary democracy and a market based economy. The reforms involve radical changes in political, economic and social spheres. Against that background Professor Hunek asserted that their point of reference should be the model of national economic and political systems typical of the countries of Western Europe. This poses the basic dilemma of whether their goal should be inter-economic cooperation and further union within Central and Eastern Europe, versus full integration with the European Community. On the other side the position of the European Community on issues of its integration with Central and Eastern Europe may be described as reserved. The overruling guideline which the EEC follows in this field is that 'in order to expand the Community, you must first of all integrate it in its present form'.

Professor Hunek's view was in favour of accepting what might be regarded as an historical paradox, namely that the way to cooperation and

further integration within Central and Eastern Europe would, despite its difficulties, be through integration with the European Community. Part of the reason for that relates to the manner in which the CEE countries developed under the influence of Moscow. No attempt was made to encourage production on the basis of relative efficiency; there was no differentiation of product type. Even between Poland, Hungary and Czechoslovakia the industrial and agricultural goods available were so similar that there was little point in trade between them. Solidification of that type, and the lack of complementarity which it brings, offers few chances for dynamic trade and can only be broken by exposure to external opportunities.

Reform is, however, a prerequisite of that process and the immediate issue becomes one of choosing an optimal path by which it can be achieved. In that connection he contrasted two possibilities: (a) shock therapy involving the rapid adoption of market systems; (b) gradual reform extended over time. Both involve high social costs, which can be sudden and deep, but extending over the short period of a shock, or less severe, but longer lasting, in the gradualist alternative. Part of the choice between them has to depend on the starting position. For example, Hunek regarded the situation in countries of the former Soviet Union, which have lower general standards of living, as one in which shock therapy would not be easily applicable and he could not recommend it. Elsewhere, with Poland as a case in point, it could be more successful. The danger of the gradual approach is that a sense of urgency in reform is lost, while the apparent lack of improvement may lead to a strong desire to abandon the process and return to the status quo. He observed, somewhat pessimistically, that gradualism has not, so far, proved particularly successful and that what he spoke of as the rule of 'the worse, the better' might have to be applied.

3.2. Rudys (Lithuanian Institute of Agricultural Economics)

Though there had been an attempt to grant land to farmers under laws passed in 1989 (some 5500 farmers were involved), the main agrarian

reform in Lithuania began its first stage in 1992. Description of the process was the object of the presentation by Professor Rudys. According to the privatisation plans for agricultural enterprises some 12 000 productive units were involved ranging in size from the whole entity of former collective or state farms to separate livestock units, grain storage installations and gas storage outlets. In practice, it was not common for collective and state farms to be disposed of without sub-division since the aim was to enable ownership to become widespread. The important point was made that all debts associated with the units, which were a function of the past and were often incurred by farm managers not on the basis of entrepreneurial judgement but of government decree, were written off before privatisation. Even that important concession was, however, insufficient to induce complete disposal of the units available. In all around two thirds were disposed of under shareholding arrangements recognising previous rights, and a further 12% through outright sale, with the remainder failing to find takers.

In all, some 460 000 persons applied for land, having claims established by virtue of length of service or under laws relating to the restitution of ownership rights, which allowed for recognition of the rights of previous owners, their spouses, and most significantly their children and grandchildren. The inevitable result has been the creation of very small farms. On 1 January 1992 the average size of holdings already established was only 16 hectares; by the end of the year it was down to half that size. Partnerships of various types have been formed (often involving quite large numbers of people), though the new farms split out of the former collectives and state organisations are over-fragmented and functional ties with other units are artificially cut off. In some cases crop and livestock enterprises were separated, with detrimental effects on both activities. Indeed it is doubtful whether the new units can be called farms at all since many of them have land only and are desperately short of buildings and machinery. Basically this stemmed from the fact that the privatisation was done without any regard to the wishes of potential farmers; it was an administrative act of disposal.

The critically important stage in reform is still to come, however, since it will ultimately become possible for free disposition of land shares to occur. At present a large number of holders simply aim to satisfy their immediate needs and have little real interest in long term farming, but that should alter since it is expected that many will transfer their partnership share to those who wish to become specialist farmers. Only then will a new structure of the farming sector begin to emerge.

3.3. Becker (Environmental Research Centre, University of Haifa, Israel)

Nir Becker presented an assessment of the value of institutional change in moving from central planning to a market system for Israel's water allocation. His paper explored the implications of research regarding the transformation of water resources allocation to the agricultural sector from a system in which allotments were centrally allocated to users without their being able to trade in water rights. A mathematical planning model was used for the entire Israeli agricultural sector, in which an optimal allocation of water resources, based on potential trading, was found and compared with the existing situation. The latter was one of apparent water shortage, partly due to unrealistic charges being made for the allocations, which was compounded by the lack of trading opportunities in the non-transferable allotments system. That resulted in some farmers using more water than was really needed, while others were left with an unsatisfied demand for what would have been profitable use, even at higher prices. The difficulties of bringing about institutional change were recognised (i.e. there would be gains or losses to individual farmers), though it was argued that income distribution considerations, which could be overcome, should not be confused with efficiency in water use based on more rational allocation.

3.4. Schubert (Economic Consultant, Berlin, Germany)

Werner Schubert provided a detailed description of the transition of agricultural production

cooperatives and state owned farms from central planning to market type management in the former German Democratic Republic. They became private enterprises under the ownership of groups of farmers (existing as limited liability shareowners, joint-stock companies, and registered agricultural cooperatives). Such enterprises at present make use of most of the agricultural resources (land and livestock) in the former GDR. In 1992, the transformation process had mostly been accomplished. The new structure which appeared involved 3029 enterprises occupying 75.2% of farmland with an average size of 1266 hectares. Of those, 1475 (average size 1522 hectares) were cooperatives accounting for 43.9% of land. Family farms existed in very much larger numbers, 17072, but their average size was 74 hectares and they covered only 24.8% of the land.

It is evident that the larger part of the population active in agriculture was not willing or not able to follow the leading political idea about establishment of family-run peasant farms. Reasons for this attitude are mainly based on a mixture of constraints which the collective farmers were facing. These include:

- permanent pressure on prices of farm products through the policies of the European Common Agricultural Policy, now re-enforced by the GATT agreement;
- a significant fall of farm product prices immediately after reunification of the two German countries;
- the relatively old average age of the agricultural population;
- possession of specialised qualifications relevant only to some form of collective work and lack of the comprehensive knowledge of agriculture required for individual business;
- limited access to agricultural resources (especially land and capital);
- confusion in property rights combined with uncertainty and misinformation.

At present, agricultural cooperatives face a number of problems which seriously affect their future. These still include a lack of equity capital, unsettled property rights, limited access to credit and high interest rates, out of date machinery combined with the need for improved animal

husbandry, as well as loss of labour to other occupations. Yet despite these problems most cooperative farms keep on functioning due to their inborn potential for economies of scale and what they still regard as an optimistic vision of their future. Their continued existence and some hopeful economic results achieved by a considerable number of farms show that they have potential viability.

Their crucial task is that of adapting the cooperatively-run enterprises to the demands of the market. To handle marketing successfully it is regarded as essential that internal management arrangements should become able to cope with new conditions for selling products to meet the needs of market demand in the face of what has effectively become a single market rather than one which was isolated and controlled. Cooperative farms which are able to manage to lower transaction expenses and form business contacts should be able, if they also secure scale economies in production, to master the competition in the market. As a part of their reform process they also need to be able to handle their internal affairs successfully notably by establishing responsibility for individuals or small groups to operate production and marketing activities in line with their particular skills and to be rewarded according to results.

3.5. Erasmus and Hough (Department of Business Economics, University of Pretoria, South Africa)

South Africa finds itself in a transitional period of unique dimension with the first non-racial election having been set for 27 April 1994. The outcome will undoubtedly have an impact on the agricultural sector as a whole.

Although South Africa has developed from a predominantly agricultural country to a predominantly industrial one, agriculture continues to play an important role in the national economy, particularly in food production and supply, job creation, and development of natural resources. Agriculture also makes a significant contribution to export earnings. Commercial farmers produce more than 90 per cent of food, fibre, timber, tobacco, and liquor in South Africa, while subsistence

farmers produce the remaining 10 per cent. Many changes are likely to occur in key areas such as pricing policy and land holding though Erasmus and Hough also stressed that while the management and training needs of commercial and subsistence farmers differ they share the common goal to manage more effectively. This was the focus of their report on the findings of an empirical study among 1093 selected commercial farmers to determine the management challenges likely to be faced over the transitional phase. Secondly, an attempt was made to apply and extrapolate these findings to devise means for meeting the training needs of small farmers and new entrants to the farming sector.

Important recommendations from this study were that commercial farmers would only remain competitive in external markets by focusing on marketing and strategic management issues, and by themselves investing more in the development of human resources to increase productivity and to improve the quality of life of their employees. Subsistence farmers (and potential new entrants to the agricultural sector), given their situation, have need of a different package of training notably in the spheres of technical skills in production and basic techniques of financial management.

3.6. Njegovan (Economics Institute, Belgrade, Yugoslavia)

Zoran Njegovan stressed the importance of agricultural research as the driving force behind many structural changes which take place in both market oriented economies and economies in transition. It influences the underlying pattern of agriculture and relative position of countries in international trade. However, in his experience, it is not easy to organise successfully in order to meet the needs of the whole of the agriculture, particularly when the latter is segmented. In Yugoslavia, for example, the chosen path of agricultural organisation involved the early abandonment of collectivisation, though an initially small socially owned segment remained. However, while the private sector has remained dominant, especially on the livestock side, a large part of invest-

ment was devoted to the socially owned portion resulting in its share of agricultural GDP rising from 6.6% in 1955 to 29.2% in 1990. That segment was also the main instigator of technological innovation and research work from which it derived great benefit.

There has, however, been a degree of weakness in organisational structure and some bias in research focus. For example there are some 36 research organisations, half of them having between 10 and 40 research fellows, but one quarter still have fewer than 10 research fellows employed. The greatest concentration of work is in the field of plant production. That has resulted in some significant advances, though they have tended to be on the scientific rather than the development side. As a consequence, objective evaluation of the effectiveness of research effort could be said to have been lacking for the past twenty or thirty years. Smallness, while it is not necessarily disadvantageous since it provides the opportunity for the development of specialised systems suited to local conditions, appears in this case to have resulted in overlapping and duplication of work, and sometimes to lack of knowledge of international effort. Concentration on plant based activity has not met the needs of the whole of farming. Developmental applications have been somewhat neglected. In short, and as a matter for consideration by other countries, it can be said that an efficient and integral research system for agricultural research on a national level requires careful planning of an inter-linked and coordinated system.

3.7. Novkovich (University of Novi Sad, Yugoslavia)

Given that agricultural extension services are an important link in a chain connecting science and education systems on one side, and actual agricultural practice on the other, Professor Novkovich suggested that it could be useful to look at Japanese experience. It is a highly developed country, but land is scarce and farms are small, yet it succeeds in attaining a high self-sufficiency ratio in basic foodstuffs. Part of the reason appears to be the highly organised agricul-

tural extension service, funded through the government and local government budgets, and free to the individual farmer. Advisors, who are the operative professionals working directly with farmers, are strongly supported by subject matter specialists well versed in local conditions and having direct contact with research institutions and experimental stations.

On average, the 47 prefectures have 13 extension offices, 15 subject matter specialists and 230 advisors. They would serve an average of 7174 farm households. The ratio of advisors to households is, however, somewhat misleading since the main concentration is on a smaller number of key farmers who are themselves active in spreading information to others. One significant set of statistics underlies the success of the system. The hours of work per hectare of rice stood at 1760 in 1960; by 1984 it was down to 584, and has continued to fall. This has resulted from the rigorous training of extension workers, and the confidence which farmers have in accepting both their technical and economic advice. A similar system in Yugoslavia could be expected to produce worthwhile results in relation to the relatively small expenditure required.

4. Educational and training aspects for reform

4.1. Economic Theory

4.1.1. Peters (Oxford University, United Kingdom)

In his discussion of the teaching of economic theory George Peters emphasised that in Western agricultural and food systems market mechanisms are frequently influenced by government actions. A fundamental issue, therefore, is that education in economics needs to consider not only the manner in which markets operate but also the logic of state intervention.

There is one generalisation; in the West private ownership is the rule, though its form may differ considerably depending upon which part of the system is considered. Allocation through market forces is, however, more contentious since government intervention is so common, particularly in influencing prices which farmers receive. Typically *capitalism* as a feature of ownership is

accompanied by some *control* of the market mechanism. It is important to understand where that control operates, and debate its purposes.

An agricultural and food system has easily recognisable elements:

- farms are centres of activity involving the working of the land in combination with other factors of production and intermediate inputs to produce output;

- much farm activity is sustained by upstream input supply industries (for fuel, machinery or fertiliser for example) on which it increasingly depends;

- normally little of the food produced on farm reaches consumers directly; it first passes through a complex network of downstream distributing, trading and processing activities, before reaching the retail level and direct interface with consumers;

- since most forms of business activity tend to be financed, at least in part, using borrowed money it is assumed that a financial system exists to facilitate that process.

The relative importance of the components depends upon the stage of development. In the United States, for example, agricultural employment is about equal to that in the upstream input supply sector, though their combined employment is half that in downstream and retailing activities. Exact estimates do not matter; what is important is that food supply involves clear stages within an interlocking system.

There are three other features of key importance.

(1) The manner in which farms are organised and owned is a matter of historical evolution. In some countries there is still a sizable component of tenanted land (some 35% in the United Kingdom) the remainder being in owner occupation. Elsewhere owner occupation is more dominant. However, farming (by tenant or owner occupier) is normally a family business, and farms are numerous. It is capitalism on a small scale.

(2) This is not the case in upstream, downstream and retailing activity, which is often dominated by large scale enterprises, few in number, and often joint stock companies with external share ownership.

(3) The scale of exporting or importing is a matter of factor endowment, population and sometimes of policy.

In Western economies, even when they appear to operate on free market principles, the hand of government is much in evidence. It is often surprising to read Western economics textbooks; obviously they analyse the way in which economies operate, though the underlying issue is not 'how' they work but whether they could work more effectively! A number of statements of the familiar efficiency conditions were quoted, though it was stressed these are always hedged in by qualifications relating to concentration of activity and competition, problems of information, absence of externalities, and income distribution issues. The basic ideas provide nothing more than an invitation to understand the circumstances in which the market will operate less than adequately, and then to ask whether government intervention might improve the situation, or indeed whether it might not.

There was some discussion of examples relating to agriculture and food issues (e.g. the problem of concentration and the appearance of monopolistic elements in upstream and downstream sectors, of their amelioration through the appearance of countervailing power by the development of farmer cooperatives, and of externality problems associated with environmental pollution), though the main focus was on the key price intervention (operating mainly at the stage where food passes from farms, or is imported, to the downstream sectors) so typical of the European Union Common Agricultural Policy (CAP) and of United States farm policy. Broadly the key intervention influences the farm gate price of commodities, providing farmers with signals which guide their actions and forming a baseline for the price of food as it proceeds towards the consumer. The way in which that operates may impact on imports and exports, though the point stressed was the effect which intervention has on the total system.

For the farmer price setting, though it conditions the economic environment, need not affect power of decision. Essentially farmers are free agents, purchasing factors and intermediate in-

puts in the relevant markets and attempting to maximise returns. The demand for all inputs, including those from upstream sectors, is obviously a derived demand, the strength of which will depend upon the farm gate prices of output. Derived demands condition the situation of the upstream industries, though they too have a considerable degree of freedom to make their own decisions. While basically a free market system, the point was made plainer by describing it as a 'conditional' free market to recognise the presence of intervention at the farm gate level.

What, then, could be expected if key price intervention was removed, with free markets determining farm gate prices? In that event, as Adam Smith asserted, the invisible hand of the market would provide the coordinating mechanism, and it is unlikely that any fundamental breakdown would occur. The reason is obvious. At present the upstream and downstream parts of the system are conditional free market operations, and the removal of the key intervention would be bridged; supply and demand would have a free rein. This occurs in countries where there is minimal intervention (Australia and New Zealand are examples), and did occur in Europe and North America prior to the appearance of key intervention in the 1930s. Whether there would be a change in the position of agriculture, or indeed an overall efficiency improvement, is a key feature in agricultural economics.

Two issues become dominant, one of long term dynamics, the other relating to short term effects. These become so inter-mingled as to cause considerable confusion. First, everyone knows that the share of agriculture in national product declines during the process of economic growth. As we become richer food demand expands only slowly, so that increases in agricultural productivity, (especially in labour productivity) result in fewer persons being required. Unless the numbers engaged in farming decline, parity of incomes between the farm and non-farm sectors would not be achieved. The pressure is all the greater if food imports can be obtained. Since farming groups tend to carry political weight in democratic systems of government there is therefore often a tendency to protect the sector; to rig

the market in an attempt to maintain agricultural incomes. It may be done by raising the price of imports (for example, through tariff or quota mechanisms) or by using government funds to sustain agricultural product prices. This was the key to all of the GATT controversy between those countries which indulge in farm support (the European Community, Japan, other European countries, and in some key areas the United States and Canada) and those who wish to expand their exports. Extensive comment was avoided, though it was noted that the criticism is of government policy, which fails to allow the price mechanism to signal the comparative advantage of domestic versus foreign production, and by adopting a defective tool (price intervention) of income redistribution towards farmers.

Agricultural support through price intervention does, however, have a second attribute. If governments announce that major commodities will have stated levels of price support a measure of stability appears within agricultural markets. In short, instruments of policy can have two simultaneous effects; one being support, and the other stabilisation. Anyone reading current Western literature will realise that it is the former which underlines so much discussion. Levels of support are costly to consumers (raising the baseline of prices at the farm gate) and to taxpayers. Of course farmers benefit, though it might be possible to provide assistance without imposing large costs elsewhere. Finding schemes to do that is a paramount aim of policy discussion.

Though some disagree it is common for Western agricultural economists not to favour protective support. However, there is relatively little current discussion of stabilisation despite the fact that one of the most famous propositions in economics (the cobweb theorem) is based on the manner in which agricultural prices might behave in free market systems. While it can be argued that the removal of key price intervention would not result in the system breaking down into chaos that does not mean that it is free of potential defects; in short it might not operate as effectively as it would with some stabilising intervention.

The paper then moved on to a brief discussion

of whether stability is best achieved by official intervention, or whether market mechanisms (involving elements of speculation and the expansion of futures market) could be relied upon to build stability into a freely operating system. The conclusion was that market uncertainty, caused by disturbing price fluctuations, is a potential problem. The extent to which it could become actual is, however, a matter about which little is known. There is a great deal of theory, but the length of time over which key policy intervention has been in existence leaves us in a position in which we have not been able to observe the operation of free markets in modern conditions.

The central aim of the paper was not directed towards making policy prescriptions for transition economies. It had the more limited objective of discussing approaches to the broad question of control of systems which are partly market driven and partly interventionist.

4.1.2. Kilkenny (Iowa State University, USA)

The prime issue addressed by Maureen Kilkenny was that of selfishness as the motivating force underlying free market operation. There is a fundamental difference between the paradigms about behaviour in capitalist market economies and in socialist economies. Self-interest is assumed to motivate decision-making in capitalist economies, while cooperation is required in the socialist one. Graduate students from nations in transition are alienated by the implication that selfishness leads to better outcomes than cooperative behaviour. They are aware that in their home countries, unscrupulous entrepreneurs and speculators harm many other citizens. The profits which they make are losses for other people.

The students ask: how can such destructive motives be harnessed to achieve the productivity and efficiency of the West? The process of harnessing selfishness in the West occurred a century ago and was incredibly difficult. The current generation of Western economists do not question the selfishness paradigm, which has become fundamental in textbooks and research. Those economists and their students do not know how to avoid or reverse the destructive outcomes ac-

companying the transition. The best economists in the West, however, have studied this fundamental question and have important insights to share.

The paper discussed the selfishness paradigm and explained alternative cooperative paradigms for capitalist market systems. It showed how the selfishness paradigm is used in constructing models of rational choice by producers and consumers to provide robust, testable, hypotheses about the determinants of output, prices, effort, and income in market systems. Evidence that the teaching of the selfishness paradigm actually discourages cooperative behaviour was reviewed. Then an amended version of the selfishness paradigm was applied to model altruistic behaviour which resulted in honest effort in the workplace, fairness, honest contracts, charity, and other desirable outcomes in a capitalist market system.

Finally, an example from game theory (based on the prisoner's dilemma) was presented to demonstrate why undesirable selfish outcomes can occur in market systems even though cooperative outcomes would be preferred by all. Professor Kilkenny then made her fundamental point. There is a major difference between self-interest and selfishness. The former, as the wish to do what is best for oneself, can obviously be tinged with straightforward greed and could result in chaos if the latter element is unrestricted; but systems can be constructed in which self-interest is harnessed. That has to be done through social and cultural constraints and, not least, by legal sanction. They are necessary complements to the free market system. Discussion of the nature of those complements is the subject matter of political economy where the stress is not on optimisation and equilibrium, treated in a somewhat abstract fashion, but on the design of institutions appropriate for forming a market economy. That is the subject which requires a renaissance. It must be multi-disciplinary since it has to draw insights from political science, philosophy, history, sociology and law. Further it is vital to the reform and transition process since (following Peter Murrell) there is no unified theory on how to construct the institutions that are central to the success of *capitalist* economies. Without that any advice based on a prescription of 'Let Adam

Smith's invisible hand work' is likely to be misplaced. Better scholars know that Smith made scathing remarks about self-interest, that much of his original work dealt with ethics and institutions, and that many subsequent scholars have emphasised that markets fail if they lack enforceable contracts, safeguards for the rights of workers, owners and consumers, and, importantly, access to reliable information.

Based on her experience in teaching students from the former Soviet Union pursuing graduate degrees in the United States Professor Kilkenny was convinced that western textbooks must be interpreted carefully; better, rewritten! American texts, for example, relegate political economy type chapters to the end, and focus on optimisation (already a strength among those from the former command system). Instead educators in nations in transition should highlight the topics important for institutional design. For agricultural economists these are the microeconomics topics of uncertainty, externalities, market failures, public goods, and non-cooperative game theory. We have learned that the right institutions are essential pre-conditions for a market system. By the same token, education pre-conditions the economists designing those institutions.

4.1.3. Boyd (University of Manitoba, Canada)

In his circulated paper on standardised commodity markets Milton Boyd noted that countries in transition have begun privatising their state-run markets and marketing boards. One task to be faced is how to develop organised market structures and commodity exchanges for standardised agricultural commodities, such as grains and oil seeds, so that buying and selling can be more efficiently undertaken.

Standardised commodity markets are of three basic types. The first is the cash market in which the buyer and seller make a transaction where the goods are delivered immediately or in the near future. This 'market' may be an organised one where buyers and sellers meet in a central place to do business (as in a financial stock market), but the transactions are most often completed by telephone or on an electronic computer system which matches the buyers and sellers to-

gether at an acceptable price. The second is the futures market in which the buyer and seller agree on a certain price, time and place for delivery of the commodity. This generally occurs in a central commodity exchange with a trading floor and many buyers and sellers, bidding by open outcry. However, some futures markets are also electronic and use computers to match buyers and sellers. The most important features of futures markets are:

- (1) organised exchange and trading only during fixed trading hours;
- (2) standardised contracts specifying the type of product and other factors such as grades, moisture content, delivery place and time;
- (3) a clearing house which requires a financial deposit or margin to ensure the financial obligations on the futures contract can be met by the buyer and seller;
- (4) daily resettlement and accounting of profits and losses by buyers and sellers so that the winning buyer or seller is paid the correct amount by the losing buyer or seller.

The third type of standardised commodity market is based on trade in options. In the case of the 'call option' the buyer pays a premium for the right, not the obligation, to buy a commodity at a certain time, place, and price. Options trading generally takes place in a centralised options exchange, similar to futures markets, and the four features of futures markets are applicable.

There are many reasons why commodity markets (the two largest in the world are the Chicago Board of Trade and the Chicago Mercantile Exchange) have developed. First, improvement in pricing efficiency, which means that the final price will balance demand and supply, resulting in no long-term surpluses or shortages for the commodity. Second, public price determination is an advantage since it means that price is determined in the open with wide participation in trade, and all prices are publicly displayed and transmitted to major cities within the country and around the world. This ensures that prices are competitively determined and that price fixing or collusion is absent. Futures market prices also serve as the forecast of what the price will be in the future. This is very helpful to many producers

and processors in their planning and decision making. Thirdly, an advantage of commodity markets is in providing buyers and sellers with many alternatives, which makes their decisions more suited to individual needs. This results in a more effective business operation, whether it relates to a farmer, cooperative, or food processor. For example, suppliers can sell (hedge) their crop before it is produced by using a futures contract. This removes some of the uncertainty and price risk involved in business operation. Finally, commodity markets have the advantage of liquidity, or low transactions costs.

Factors affecting the operation of commodity markets include:

(1) Property rights. For markets to operate efficiently, ownership of property, and to the products which it yields, must be guaranteed. Anyone who sells a commodity on the market for future delivery but without property rights to it, may end up defaulting on the contract. Also, unless title can be clearly established to property, individuals will be unable to find collateral for loans and banks will be very reluctant to advance them money.

(2) Business and contact law. Legal provisions must be made to cover all possible situations for private transactions. For example, buyers and sellers need specific contract law so that disputes can be resolved with obligations in contracts being clearly spelled out. Commodity exchanges also need internal rules in order to operate, which must be consistent with state laws since disputes which cannot be solved within the commodity exchange may need to be taken to a state court for resolution.

(3) Standards and grades for products. Government and private industry will need to act together to decide which grades and standards are most useful for products which will traded on commodity exchanges.

(4) Competitive markets. If a market is to succeed, it must be considered fair in the sense that buyers and sellers must feel they are receiving equitable treatment. In other words, the market must approximate the conditions of perfect competition. Besides a standardised product, competition requires a large number of buyers and

sellers so that no individual can unduly influence price. In agriculture, this generally holds on the selling side. However, on the buying side, there may be only a few flour millers or soybean processors, who may be able to influence a price. Secondly, easy entry and exit to a market does not always hold, especially if there are problems in communication, so that buyers and sellers cannot easily contact brokers or agents and easily enter or exit. Thirdly, perfect information requires that public and private market forecasts, supply and demand analysis, and prices, should be published in business newspapers.

(5) Reliable currency requirements. In order to make timely and efficient transactions a reliable currency is necessary. This includes a currency which can be held in order to collect a real rate of interest. The currency should be one for which there are no restrictions regulating amounts which can be held, and it should be convertible.

(6) Adequate infrastructure. In the case of physical commodities, such as grains, infrastructure is especially important for commodity markets, since contracts specify that delivery must comply with contract specifications. Modern communications infrastructure for data transmission is also necessary.

In many reforming countries economics teaching will require new approaches to the study of commodity markets. This is partly a matter of providing descriptive literature such as the *Commodity Trading Manual* (Chicago Board of Trade, 1989). It will also require clear understanding of the concept of a competitive price, which must be given priority. The competitive neoclassical model and its assumptions will need to be emphasised, since the nature of competitive markets may not always be obvious to those who have lived in a planned economy.

4.1.4. Hockmann (University of Gottingen, Germany)

Attention then shifted to a somewhat different, but no less important subject, namely the fostering of agricultural research. The focus was the economic analysis of the relationship between activities in a public research institution and those of private firms also engaged in research and

development. The particular context related to hybrid rye in Germany, though the technique of analysis can be extended to other examples of innovation. A key part of the discussion related to private firms' incentives to engage in research and development.

The setting in which hybrid rye was developed, in particular the structure of the rye breeding industry, reveals a general pattern in the connections between private firms and public research institutes. There are two stages. In the first, a public research institute is engaged in activities concerning a basic discovery. The second stage starts with the adoption of the basic innovation by private seed firms who engage in intense competition to develop a commercially saleable product.

In seeking an explanation of firm behaviour when deciding on whether to engage in basic and applied research, the economic benefits associated with a new development have to be considered. These are influenced by expected demand, technological opportunities and appropriability conditions.

Demand conditions in the market for rye seed strongly favoured the development of a suitable hybrid variety. Private firms could earn more than five times as much with a hybrid than they would with conventional seeds. However, potential suppliers faced technological and appropriability constraints. Although the demand conditions for hybrids were more favourable, the technological opportunity for their development did not exist until the basic discovery of the existence of cytoplasmic male sterility in an Argentinean rye variety was made in 1969. It was not until 1984 that a completely developed variety was developed at the University of Stuttgart-Hohenheim. This leads to the conclusion that the development of hybrid rye was mainly forced by a technological push, and was not driven primarily by favourable demand.

The characteristics of research results formed the basis for a discussion of the influence of appropriability conditions. Generally, research and development provide two types of results, the discovery itself plus information about possible further innovation. In the process of discovery of

cytoplasmic sterility, neither excludability nor rivalry existed. On the contrary the scientific knowledge was in the public domain and that provided an incentive for private firms to engage in developmental research. In such circumstances it is still not predictable whether the basic innovation will actually be developed. Private firms certainly have incentives to wait until a public research institute has finished basic research projects. This behaviour could actually be observed after the initial discovery. However, if further improvements of the original innovation are protected by law (as in Germany), each firm could anticipate positive expected profits by being ahead of competitors. The complication here is that hybrid seed can be developed in successive stages each of which represents an improvement on the previous level. Profit can be earned by early development though it would be eroded if and when rivals succeed in making improvements in seed quality sufficient to achieve legal protection.

The behaviour of firms in such cases can be explained by game theory. If it is assumed that competitive firms are each engaged in successive stages of development it can be shown that the outcome would be relatively intense research activities in each stage, with rapid improvement in product quality following entry of competitive firms. That appears to have been the case in the diffusion of hybrid rye and the model developed represents a good approximation of the processes involved. It is interesting to note, however, that a different situation might occur in the case of monopoly in the seed industry. A monopolist would determine research intensity only with respect to the profit incentive and be free of the additional incentive provided by competitive threat and the possibility of being a follower in the development race.

The specific example in the paper, allied to the extensive discussion of research and development in the agricultural economics literature, provide some insight into policy implications relating to the economic efficiency of the institutional arrangements which are in place in so many parts of the world. The story of hybrid rye suggests that there can be a vital role for public research activities in the agricultural sector (note that 15

years passed before the fundamental breakthrough was achieved). It could be argued, however, that there is an alternative way of fostering 'basic' scientific research within the private sector, namely by providing strong property rights to the results. There is a complementary relation between the outcomes of basic and applied research which suggests that the legal framework governing variety protection could be designed to strengthen private incentive to engage in basic work. The risks involved, and the likely strategic interaction among firms, suggest though that direct public research activities may be more efficient than providing property rights.

Variety rights do, however, remain important at the developmental stage. Without protection the possibility that there would be imitation and competition would lead to negative expected profits from innovative activities. At the same time, especially under oligopsonistic market conditions, protection can slow innovation built on basic research in the public sector. German law on patent protection offers one solution to this problem. It provides rights protection to the breeder who develops a particular variety, which prevents competitors from its direct commercial use, but does not exclude them from breeding of alternative improved strains on the basis of existing varieties, no matter who had developed them. This could induce successive competition and improvement in product quality, resulting in consumers being able to expect earlier benefits. That appears advantageous though it is not clear that it is an optimal solution since the inducement of competition, built on incorporation of the knowledge derived by others, itself weakens some of the incentives to innovate.

4.2. Curriculum development

4.2.1. Beck (University of Kentucky, USA)

Robert Beck reminded participants that in a Presidential Address to the 1991 IAAE Tokyo Conference, Professor John Longworth challenged agricultural educators to promote sustainable agricultural development by careful design of their teaching programmes. That, however, is not the only challenge which has to be faced, not

least for faculties in the reforming countries. The social and economic environment for higher education has changed dramatically in those countries during the past three years. With the transition to market oriented economies, agricultural economics faculties are experiencing the throes of curricular reform—an enormously difficult and time consuming process.

The task of reforming agricultural economics curricula, particularly in marketing and agribusiness, becomes complex because of the foundation (economic theory) on which it must be built. Yet, time is of essence in meeting the growing need for graduates in marketing and agribusiness by a market oriented food industry.

Effective curricular reform should consider two major issues: (1) curriculum and (2) performance measurement. Revised curricula should reflect the need to educate and train students to be successful in their chosen profession as well as being productive members of society. It requires very careful attention to training content, treated comprehensively rather than by making adjustments to existing arrangements. Professor Beck's observation, based on experience at his own institution, was that too often curriculum revision is approached in a fragmented fashion rather than through a more comprehensive approach.

4.2.2. Watt and Burton (North Dakota SU. and Kansas SU., USA)

It became evident, however, that the task will not be an easy one, not least because the situation in areas of the world which might provide models is one in which there is still considerable debate. As an example, David Watt and Robert Burton presented a detailed review of the national conference on Future Priorities and Agenda for Farm Management Research in the USA held in May 1993 at St. Louis, Missouri. This dealt not only with research as such, but also with the training of those with whom future responsibilities would lie and with the communication of results through extension work.

The key point stressed was that the United States' system of teaching, research, and extension activities relating directly to farm management, began in an era of many farmers, low

education levels, and little application of scientific methods to farming. The agricultural and research communities together developed knowledge and expertise in ways of efficiently producing food for domestic use and eventually for significant export. In the United States today, there is greater variation in the technology level of farmers and greater variation in the size of operations. The system now has to provide services for this more differentiated clientele.

Transitional countries are starting from a situation in which they already have a broad spectrum of farmers with respect to educational background. Many use very few scientific methods. Some are very sophisticated. It would not be appropriate for transitional countries to consider themselves to be behind the United States and needing to create a system that the United States had 50, or even 20, years ago. Instead, it seems appropriate that the system should be designed for a differentiated clientele at the outset, though it has to be recognised that much will depend on the outcomes which emerge from the transition process. Differentiation will concern not only the size ranges of the farms involved but also their regional variety and resource endowment, and their degree of integration with the rest of the food industry. Initially the important issue appears to be that of fostering research and instruction which is farm production orientated, not least because of the importance to transitional economies of food security. Over time, however, it is likely that the focus will gradually shift, as it is doing in the United States, towards meeting the related needs of consumers (their concern is with food safety) and environmentalists (where the worry is sustainability and the need to avoid lasting damage to the resource base).

Moreover, careful consideration should be given to linkages among teaching, research and extension, and between creators and users of information. Professors Watt and Burton expressed the challenging view that there is a fairly widespread feeling among U.S. agricultural producers that the U.S. system is not serving them as well as it might because of discontinuities between current research being carried out, and its communication to potential users. In short, there

is an uneasy relationship between the need for the farm and food sectors to be able to guide research activities into areas of greatest relevance, while at the same time bearing in mind that those who use results are not in a position to assume dominant control since they are not in a position to appraise the scientific basis of new techniques.

4.2.3. Lerohl and Mumey (University of Alberta, Canada)

It also became clear, however, that education can have a somewhat different focus in which farm management is not the dominant element. There was therefore considerable interest in information relating to the emerging agriculture-business (agribusiness) curriculum for undergraduate instruction contained in a paper presented by M.L. Lerohl and G.A. Mumey. The major focus of their contribution was on the University of Alberta programme (which was presented in detail) though the beginnings of the discipline, primarily in the United States, were sketched and recent initiatives in developing similar programmes in Australia were also outlined. Competition is beginning to emerge among institutions to provide programmes able to attract a broad cross-section of students interested in rural studies. Programmes in agribusiness increasingly are seen as the means of attracting and holding students, many of whom have come to view established agricultural degrees as best suited to those wishing to be scientific researchers or extension specialists rather than managers of agriculture related businesses.

Part of the reason for growing interest in agribusiness programmes (which blend courses in technical agriculture, agricultural economics viewed in its analytic context, and business studies) is the belief that employment prospects are excellent, and many students feel that they provide a broader range of experiences than has been typical of traditional approaches to agricultural education. Programmes which emphasise the links between agricultural economics and university degrees in business appear to fill the needs of many students. This is particularly so for those interested in joining the work force in an agricul-

ture-related capacity, yet retaining a broad range of occupational choice. The speakers expressed the view that where there is a fresh beginning to be made in education relating to the operation of a market economy the agribusiness model could have a part to play alongside the more conventional approaches to agriculture based instruction.

4.2.4. Gessaman (University of Nebraska, USA)

In successful transition from traditional methods of agricultural production and marketing to entrepreneurial (profit-oriented) business and financial management, primary guidance for many management decisions shifts from past experience to expectations about future conditions and knowledge of actions needed to generate and capture profits. The transition requires new patterns of thinking about management and an understanding of how decision making occurs when using a management system approach.

In using goal-directed management, each business unit determines the nature of its resource base, identifies its goals, sets priorities, selects decision criteria, and takes concerted action to attain its goals. In these agricultural applications, goal-directed management addresses a fundamental truth of business life, namely that traditional methods (methods from the past) will be continued unless the producer identifies a more desirable alternative future, makes a commitment to that future, and manages to make it become a reality.

Educational programmes for agricultural producers place emphasis on building an understanding of goal-directed management as a decision system with direct application to farming. Emphasis is placed on the nature of the management system and its application to issues and concerns in long-term and short-term management. Within this overall management system framework, the curriculum has two principal thrusts: (1) goal identification through processes in which long-term and short-term goals for the farming operation are identified by the farm family or the group of persons playing active roles in the farm unit; (2) development of knowledge and skills needed when compiling financial statements, as-

sembling production data, and carrying out analytic procedures to secure information used as the basis for management decisions.

Goals can be identified through almost any process that stimulates creative thinking by participants and willingness to consider new ideas and activities when developing goal statements that accurately describe conditions and outcomes to be attained through management decisions. Experience indicates that within-management unit communication and decision abilities are improved when goal identification occurs through structured discussion of the interests, abilities, and desires of persons playing active roles in the management unit. Long-term and short-term goals are identified and recorded as potential foci for future management decisions. In most instances, this process results in initial goal statements with combined resource needs that exceed the capabilities of the production unit—an excess demand that is modified in the course of priority setting activities.

In the second educational thrust, the sequence of activities complements the goal identification process and generates an information base for financial and production management. Activities include: (a) instruction and practice in preparing and analysing financial statements; (b) estimation of resource capacity and calculation of related production efficiency measures indicating existing levels of management capability; (c) assessment of the risk posture, marketing interests, and the capabilities of persons in the management unit.

Priority setting brings into balance the sometimes exaggerated resource needs implicit to goal statements and the realities of resource availability and existing management capability. Outputs from the two instructional thrusts (goal identification and information base development) are brought together as a management plan is developed. The resulting management plan is intended to challenge financial and production management capabilities while requiring attainable levels of management capacity, financial, physical and technological resources, and marketing capabilities.

Experience in informal education programmes with agricultural producers using traditional farm

management practices indicates many find it possible to learn and apply the goal-directed management system to their profit-oriented farming operations. Evaluation data indicate small farms (under \$125 000 annual sales) are three or four times more likely than very large farms to adopt and use goal-directed management systems. As they do so, the proportion of small farms with written goals increases and the proportion with written management plans also increases. Surveys of educational program participants indicate that most attained their goals quicker and with less effort than they initially expected.

4.2.5. Croci-Angelini (University of Siena, Italy)

While it is clear that there are debates under way in the United States relating to the manner in which different aspects of our subject should be taught, researched and communicated it came as a surprise to many participants to hear from Elisabetta Croci-Angelini that the situation in the European Community is, to say the least, one of great diversity. Even more surprising was the information that undergraduate degrees in Agricultural Economics are available only in the United Kingdom (at a relatively small number of universities, and as a specialism completed within 3 years) and from the University of Wageningen (Netherlands), where the course lasts for 5 years. Elsewhere, the subject is regarded as one for postgraduate study, though it may feature as a component of undergraduate instruction along with technical aspects of agriculture. Furthermore, when pursued as a specialism, it may involve study in an agriculture faculty, or in one of economics, and in some instances may require study in both.

4.2.6. Liu Wen-Pu and Zhang Xiao-Shan (Chinese Academy of Social Sciences, China)

The authors began with a discussion of changes in agricultural policy in mainland China, notably the shift towards the household responsibility system which gathered pace in the period from 1978 to 1984 which is now seen as a golden stage for the rural sector, and the further shift in 1992 to a socialist market oriented economy in which prices play a greater role in guiding the allocation of resources. Against that background they argued

that Chinese agricultural economists must face the challenge of rural economic reform and design their courses with that in mind. The paper provided a detailed description of the curriculum of the College of Economics and Management of the Beijing Agricultural University, tracing out the major shifts in emphasis which had taken place. The total number of faculty in 1990 was 82 (including 14 professors and 25 associate professors), of whom 60% were under 40 years of age. They taught 400 undergraduate students, 44 reading for a master's degree, and four for a Ph.D. A particular shift of emphasis, most notable at master's level, has been the introduction of western economics plus accounting and finance, and the inclusion of courses on international trade in agricultural products and on macro-planning and agricultural adjustment.

In research they mentioned the case of a major institution, the Rural Development Institute (RDI) of the Chinese Academy of Social Sciences (CASS). Formerly known as the Institute of Agricultural Economics, established in 1978, the RDI changed its name in 1985 to emphasise its adoption of a wider remit. It employs 109 research professionals, including 40 senior research fellows. Originally the emphasis was distinctly sector specific, though it did include the study of forestry and fishing in addition to agriculture. Now there is increased attention to social welfare and population issues in rural areas, to employment generation in non-farm activity through a rural development approach, and to environmental problems. Notable also is increased attention to broader macro-issues relating to the impact on the rural economy of public finance, monetary policy, taxation and external trade. Earlier emphasis on data collection allied to descriptive study is shifting towards applied economics based on a firmer understanding of its theoretical underpinnings. It is a difficult task requiring much renewal of economic knowledge and of specific thinking about the processes of change in a more market driven system.

4.2.7. Erickson (Kansas SU., USA)

Based on his experience in agricultural extension programmes in the United States Donald

Erickson considered the type of training appropriate for small businesses, including farming businesses, seeking to place a new, but differentiated, product on a market where entry is unrestricted and where the market is essentially free. Before a new plant is built or a new product created for sale in a free market economy an understanding both of costs of production and marketing, and of consumption characteristics of the product, is required. The paper provided suggestions for the manner in which small entrepreneurs might collect, organise, and analyse information required as a guide to management decisions.

Small firms need to consider all production and all marketing aspects of the business. It is consumers who buy the products which create returns to investors and which make the whole production-marketing process possible. Consumers have thousands of choices to make and all manufacturers, producers, and products are competing for their incomes. Consumption is the most important and final reason for developing any new product. Entrepreneurs who decide to start a new processing plant or create a new product should use a five-step organised procedure to collect information to make realistic decisions. They are:

- (1) to have a good idea and develop a product that will be accepted and purchased by consumers;
- (2) to develop a projected cost analysis for production and marketing of the product;
- (3) to determine where consumers are located and what they will buy;
- (4) to determine whether or not the product(s) will earn a profit or return on investment based on projected prices and consumer information.

Decisions to market products are based on expected returns in relation to the costs of production. The definitions of annual fixed cost and of variable costs then followed the conventional lines. Given a favourable profit outlook attention needs to be directed toward methods and costs of marketing. A marketing plan includes cost estimates of all marketing functions up to the point at which the product is purchased by consumers. Total marketing costs will vary depending on the

type of product and whether it requires special handling, such as freezing or refrigeration. Over time, all marketing costs have to be paid as the product is moved from the point of processing or production to the point of consumption, and recouped from consumers.

Consumers of the new product need to be identified at local, regional, national, or global levels. Marketing includes moving the product or service to satisfy the needs of identified consumers at an acceptable price and at the time they want to buy it. Selling directly to retailers or wholesalers is an intermediate way to market the product. If sales are national or international, experienced brokers can be used. Prices (reflecting all costs), quality and availability are major factors which will influence decisions made by consumers as to whether or not to purchase a product.

New companies may need to organise a marketing section within the business or hire a part time marketing specialist or marketing firm. Often competent and energetic people may not be able to manage a plant and market products at the same time. One of the major goals of a marketing organisation is to provide a communication link from the product developer and manufacturer to consumers. At the same time, price and consumer satisfaction information has to be obtained from consumers and communicated back to the entrepreneur.

Marketing, as a management activity for a new enterprise, is often overlooked. Various marketing functions will have different costs depending on what facilities or strategies are needed to move the product from production to consumers. Also, many firms may have to develop a product testing programme to find what consumers are willing to buy. Each entrepreneur has to determine how much market research will be needed in the long run.

Major marketing research efforts should be directed toward locating consumers who are willing to buy the new product. Marketing research may also be needed to help determine the current market share of the new brand versus a competitor's relative market share. Additional marketing information important to managers in-

clude such topics as distribution structures, advertising, sales promotion activities, and vertical integration. Continued analysis of the market structure and consumer demand can contribute toward successful production and marketing plans.

Speculative investment provides the capital that is the lifeblood of economic growth. Venture capital is the catalyst for economic growth and expansion. Investment capital that is available in various communities or different sectors will determine the amount of income increase that will result. In addition, investment will also be attracted to enterprises which have greater possibility of repaying loans or returning the greatest profit potential.

4.2.8. Tomich and Radmanovich (*Institute of Agricultural Economics, Belgrade, Yugoslavia*)

The need for the education of managers and entrepreneurs was stressed by Tomich and Radmanovich as a pre-condition for a successful transformation of agriculture in the ex-socialist countries. There can be little disagreement with the proposition that profit seeking entrepreneurship is a highly significant resource and that its development should not be neglected. Entrepreneurship is associated not only with organisation but also with risk taking, either by individuals or by managerial teams in collective enterprises.

The former state farms or collectives which are being transformed into shareholding companies are still supported to a great extent by governments, and in that sense they are frequently operated in the same way as they used to be. Profit is not yet the basic economic motive. The role of governments and its institutions in directing agricultural development processes is certainly a very important one in most countries, but it needs to be coupled with more inventiveness, initiative and creativity of employees, especially among the higher level professional and managing staff. If they want their enterprise to succeed in the market managers and professional teams have to learn to compete with their rivals. The rigid organisation scheme of state combines should be abandoned, and profit and cost targets clearly

defined. Simultaneously, a great many superfluous workers have to be dismissed. Companies in agribusiness should be very critical in selecting creative professional staff, engaging specialists who are capable of accepting and adapting to change. Social problems (including unemployment) will have to be dealt with by government social policy measures, and should not be left to companies to handle.

Existing professional cadres in the agro-economy of the ex-socialist countries were not educated to be managers, entrepreneurs and businessmen in a market-oriented economy. However, it is they who have to begin to carry out all the economic changes in the transitional societies. There is no possibility of expecting a class of new professionals suddenly to appear. Therefore, all forms of additional education and training (using seminars or short courses in business oriented skills) should be instituted as soon as possible to enable these people to manage ongoing complex and continual economic changes. The system of education itself must also be changed so as to provide future agro-economists with both theoretical and practical knowledge that could enable them to think and act more successfully in a market oriented economy.

All of that will take time, however. The agribusiness companies have inherited a situation in which not all employees are ready or motivated to support the change to come. All too often the efforts of those with initiative are neutralised by others who are less motivated. It again underscores the importance of professional selection, first of all in bigger companies, so as to support those who are willing to accept new styles of professional work and new attitudes. The aim should be to establish a healthy professional nucleus in each organisation ready to pioneer in structural and functional changes and guide investments into new production activities.

4.2.9. Somogyi and Kocsandi (*PATE Georgicon Faculty of Agricultural Sciences, Hungary*)

Similar points were made in discussion of Hungarian experience. Changes in the economic-political system have set in motion a complex process of restructuring. The initial optimism,

which supposed fast changes and improvement of the general situation to be possible, has dwindled away. It is clear now that these processes require much time, and that the necessary changes will be deep seated. Against that background it is necessary to reconsider attitudes and approaches to problems, not least in the areas of education and research linked to agriculture and related activities.

The agriculture of Hungary, in comparison with other former socialist countries, has an enviable record and it is indisputable that education and research work have contributed to it. However, the situation is still difficult owing to the breakdown of the East European market and the weaker demand for agricultural products. External factors of that type allied to internal reorganisation make it clear that under conditions of dynamic change persons who are expert in a narrowly specialised activity required in large scale farming cannot satisfy the new demands of reorganised agriculture. There is much more demand for adequate economic and managerial knowledge. Educational institutions, however, have not responded adequately by adapting to new challenges.

The ideologic elements of education including, for example, one-sidedness in the approach to political economy, were suspended, but a narrow technical-technological specialisation has been preserved. This is not entirely unsuitable in the training of future specialist researchers, but the majority of students ought to be prepared for work in extension services and for the needs of management in regional development. That requires a different view of the world involving skills in management, organisation and communication. It also implies the need for a faster development of agricultural economics and management within the total curriculum..

The process of change in education has already begun. A block system has been introduced aimed at improvement of knowledge in agro-economics, with deepened instruction in accounting, business analysis, finance and economics. In the academic year 1992/1993, more advanced training of agricultural engineers/organisers started. This vocationally oriented education can meet

the need for personnel capable of creating and managing private and joint enterprises supplying goods to agriculture and processing and marketing its output, organising cooperative farms, and operating financial organisations. The aim is world class managerially oriented education and the creation of a linked network of extension advice.

Simultaneously, the accreditation of the program for a 3-year doctoral course in agroeconomics has begun. This program should supply training for future researchers and teaching staff. We are well aware of pressing research needs in a number of critical areas. For example, much more needs to be known about familiar issues in the subject which need analysis in the Hungarian context, such as the optimum scale of enterprise in farming, the modelling of farm systems, the organisation of the food chain and the supply industries, and the operation of pricing systems which ensure a degree of stability in the market. There are also newly emerging issues, notably those concerning sustainable development and environmental protection, which are understood at a theoretical level but demand applied research.

4.2.10. Bong Kyu Choo (Seoul National University, Korea)

Professor Choo, from his experience at Seoul National University, presented detailed suggestions relating to material which needs to be taught to meet the needs of transition. He began by emphasising the central importance of micro-economics and price theory, including also a sound knowledge of the theory of the firm based on the profit maximising approach. There was also a plea for inclusion of strong land economics elements in teaching, with a focus on forms of private ownership and the institutional framework in which it can operate. That should extend into resource economics. He also recommended that significant attention be paid to agribusiness organisation and management, which includes the organisation and management of agribusiness firms, strategic management, agricultural market structure and market power, inventory risk management, and managing agricultural cooperation.

In his view it is also important to set agricultural economics education in a wide context. Basic theory should not be exclusively micro-economics; it should also give students a working grasp of short-run macro-theory, looking in particular at unemployment and inflation, the role of money, government financing, and the handling of an open economy. The broad principles of the theory of economic growth would follow from that. Width should also be achieved by paying attention to international trade and the role within it of agricultural trade. International commercial policy, tariffs and trade subsidies, countervailing duties, quotas, the role of GATT in trade liberalisation and foreign aid and investment flows, are all issues which students in countries looking for any form of outward stance should be acquainted with. There would, of course, have to be room for statistical theory, the collection of descriptive information and computer studies.

Effectively the recommendation was that a rapid effort should be made to adapt swiftly to the type of teaching and research which is now characteristic of market-oriented countries.

4.2.11. Rahman (Bangladesh Agricultural University, Bangladesh)

Another insight into teaching arrangements, with additional comment on the fostering of research, was provided by Professor Rahman's paper. Specialised agricultural economics education in Bangladesh took formal shape with the opening of the Faculty of Agricultural Economics and Rural Sociology at the Bangladesh Agricultural University (BAU) in 1962. It now consists of five departments, namely, Agricultural Economics, Agricultural Finance, Cooperation and Marketing, Agricultural Statistics and Rural Sociology, and is the only institution that offers undergraduate and graduate courses in the field of agricultural economics. There are forty members of the teaching staff. The Faculty of Agricultural Economics and Rural Sociology confers one bachelor's degree and eight master's degrees in specialised areas of agricultural economics. The bachelor's degree involves a four year programme, with a curriculum consisting of 32% of time in agricultural economics, 25% in eco-

nomics, 18% in other social sciences, 14% in technical sciences and 11% in quantitative methods. Thus it provides a useful wide education though, perhaps, the time devoted to quantitative methods, one of the most important ingredients of agricultural economics education, is under emphasised in the present curriculum.

In the master's degree there is choice between thesis based or taught degrees, in a programme which allows eight potential pathways. Experience is demonstrating that wide choice, which appears admirable in principle, is in fact a source of weakness. There is also more general concern that administration of all teaching is less than dynamic when an institution operates a multi-departmental structure.

The BAU is also a research organisation, and has some further responsibilities for extension work. In Bangladesh, the growth of institutional agricultural research has mostly taken place under government patronage. In essence, institutional agricultural research implies public sector agricultural research in this country. In 1973, the Bangladesh Agricultural Research Council (BARC) was created to provide a systematic approach to planning, coordination, direction and conduct of a national agricultural research programme and integrated research system. The responsibility for determining priorities, guiding research efforts and establishing coordination rests with the BARC, while that for conducting research rests with various research institutes and organisations, of which BAU is one. The research programmes are generally coordinated by the Bureau of Socioeconomic Research and Training (BSERT) and the Department concerned. The main focus has been on production economics, farm management, agricultural credit and marketing. Projects are mostly funded by BARC, or by such grant giving organisations as the Ford Foundation and Winrock International.

Research sponsored by the Agricultural Economics and Social Science (AECC) division of BARC also takes place in other organisations. For example the Bangladesh Institute of Development Studies (BIDS) is engaged in development and policy oriented research in socioeconomic aspects of agriculture, and laudable efforts have been made by the Department of Eco-

nomics and Bureau of Economic Research of Dhaka University in agricultural economics research. Some of the pioneering research studies on rural credit, capital formation and unemployment were completed there. Research in agricultural economics is also being conducted, although sparsely, by other Universities of Bangladesh.

The AEES division of BARC has had some success in sponsoring research on important issues such as the impact of irrigation and improved agricultural technology, farm production and cropping system, effects of agricultural credit and resource constraints, marketing, and the price response of agricultural producers. It is, however, open to some criticism for its slowness in developing research effort (for example in the 16 years 1974–1990 only 44 projects were completed) and for failing to direct work towards important issues. Too little has been done on the macro side of agricultural management and there has been neglect of study of the risk environment faced by Bangladesh farmers. For example, the 'greenhouse' effects of the global change in the climate may well have increased the occurrence of natural disasters in that part of the world causing a high degree of risk and uncertainty in Bangladesh agriculture. Uncertainty associated with new technology and variation in the prices of agricultural products has also increased the risk component of farming. The extent to which the minimum price policy of the government has reduced market risk also needs to be evaluated and examined, especially as the growing use of debt capital has substantially increased financial risks for many agricultural producers. The Government's recent vigorous policy shift towards limited price support, withdrawal of subsidies on inputs and privatisation of the input delivery system as a means of creating private capitalism in a subsistence agriculture dominated by small and marginal farmers, also offers a challenging area of socio-economic research.

4.3. *Experiences in the provision of training programmes*

An interesting feature of the symposium was that it revealed a growing frequency of Western participation in various training programmes un-

dertaken in eastern Europe and the CIS. There was also an example of the setting up of a master's degree programme.

4.3.1. *McGregor and Szajder (Scottish Agricultural College, United Kingdom and University of Poznan, Poland)*

Iain McGregor's presentation described an integrated system of Education and Training, Research and Development and Extension Services within the Scottish Agricultural College (a cooperative group bringing together three colleges, in Ayr, Aberdeen and Edinburgh) and how the scale and facilities of the group have been used to develop training packages for Poland. In particular, a number of EC funded training programmes were described. Some involved short courses, in Scotland, for staff of the Agricultural Universities of Warsaw, Lublin, Poznan and Krakow, along with further discussion of curriculum development. That has also involved assistance from universities in Ireland, Holland, Germany and England. In other cases Polish students were provided with courses and industrial placements in the food trades. At a third level training courses were provided for senior managers of Polish milk processing factories, though this was only undertaken after a review of the situation had been completed. The work was described as an effort to share experiences, and to transfer knowledge, across international boundaries.

4.3.2. *Scanlan (Scottish Agricultural College, United Kingdom)*

A paper by Simon Scanlan described an example of training in farm management, agricultural marketing and extension work, undertaken in Moscow. He drew on the experience of a project in the European Community TACIS programme entitled 'Establishment of a Farm Training Centre' in Russia. The main objective is to train teachers and practitioners in agriculture, and to support their further activities with advice, teaching materials, publications and broadcasts.

Courses in the Training Centre have concentrated on business aspects of agriculture, including farm management, agricultural marketing, co-operative structures, communications, training methods, extension methods, and agricultural

consultancy. Within that wide brief there was a particular focus on the main needs which have been identified among agricultural teachers and managers for education and training in marketing in the agribusiness context. It was noted that the textbooks available include a number of North American works translated into Russian, though their content has tended to be covered only in lectures with little attention being paid to the case study method. The obvious problem there is the lack of appropriate material. In more general terms western expertise, as reflected in textbook material, does not as yet address the type of issues which are being met by Russian managers on a daily basis. They often face a state ordering system (though its future is uncertain) and hence lack experience of non-state marketing infrastructure; they have to deal with rapid inflation; and they need to know more about contractual arrangements and the way in which the legal framework is changing in an unstable institutional situation.

A key feature of the Moscow programme was the use of a case study approach conducted in local enterprises. For example a group of participants investigated a small fruit and vegetable processing unit identifying key issues such as shortages of raw material, pricing problems and under-use of capacity. Another group carried out an analysis of a local distribution system for vegetables, including an appraisal of the retail market opportunities. Material derived from such studies is now being written up in book form. Visits to Scottish organisations were arranged as part of the programme in order to demonstrate types of marketing system in operation and to analyse relevant information.

Recommendations were made for development in agricultural marketing education and supporting research. Among the key findings are the need for close partnership between agricultural colleges or institutes outside the country in question and the local institutes responsible for training teachers, official agencies, ministry officials, and real agricultural and related businesses.

4.3.3. *Miller (University of Georgia, USA)*

Bill R. Miller and his co-authors described their experiences in developing and evaluating a

collaborative economics education programme successfully implemented in Poland. The Business Plan Training for Agribusiness, was developed as a component of the Polish/American Extension Project, a cooperative initiative co-funded by the US Agency for International Development and the Polish government.

Objectives were twofold. First, it facilitated transition of the Polish agriculture extension system from the provision of technical assistance and service to state and collective farms, often neglecting private farmers, to the provision of educational assistance and research based information directly to private farmers and agribusiness. Second, it introduced, and enhanced, understanding of market economic concepts and principles.

Instruction was presented in a collaborative atmosphere with little distinction between teachers and students in a hands-on learning environment. Teaching methods included discourse, group discussion, group work, and reports. The subject matter (microeconomic business planning) sought to provide relevant training of extension advisors and increase their knowledge of economic and marketing principles important to their clientele. Lack of business planning was identified as a problem for the transition to a market-based economy in Poland. As part of the program, business plans, feasibility analyses, and business loan applications were prepared by each learner and reviewed by peers and business experts.

Week-long courses were presented at 17 provincial and regional sites in 1991 and 1992. Extension educators from 31 of Poland's 46 provinces attended. Nearly 700 Polish educators adopted the Business Plan Training approach, adapted to emerging needs and opportunities, and made over 68 000 contact hours with learners. In one province alone, over 700 business plans were subsequently prepared by participants. Other agencies in Poland have begun offering Business Plan Training, and business plans are now commonly required for loan applications in many banks in Poland. The programme was successful because it was based on locally recognised need, was problem oriented, utilised the learners as teachers in subsequent programs, and

used an informal discussion approach pertinent to adult learners in lieu of a lecture format.

In the spring of 1993, PAEP launched its advanced business plan training program for advisory staff. It included a series of four advanced business plan workshops to provide more in-depth training in agricultural marketing, market research, finance, and farm business planning. These workshops are improving the linkages between advisory service and universities in Poland, as each workshop is jointly planned by a team of advisors and university staff assisted by an experienced university faculty member from a leading U.S. university. Workshops will be repeated several times a year throughout Poland by specially trained Polish advisors. Additional workshops are planned in International Trade and in Marketing Systems.

4.3.4. Ames and Davis (University of Georgia, USA)

Glenn Ames and Claudia Davis described an initiative which went beyond the provision of short courses of instruction since it involved the provision of master's level degree training linking the State of Georgia and the Republic which shares its name. Their view was that revised research and instructional programs in agricultural economics can assist the Newly Independent Republics of the former Soviet Union in their transition to a market economy especially in the areas of agribusiness management, marketing and environmental management. However, typical western management curriculum and teaching materials have to be adapted to the local economic and cultural environment without losing sight of the objective of teaching international business practices.

The western model of a competitive business environment may not be completely appropriate in the early stages of economic transformation, especially in the agricultural and food processing sector. The institutional structure inherited from the centrally planned economies may lead to more bilateral monopolies as the mechanism for vertical coordination in the food production and distribution system. There is a tendency to continue vertically coordinated production, processing and distribution systems since the cost of breaking

larger units into small, more efficient units may be prohibitive. The lack of transportation and communication infrastructure also contributes to vertically coordinated monopolies.

Certain macroeconomic conditions must be fulfilled for economic reforms to succeed in the new republics. These conditions include the interdependence of market prices, decentralisation of decision making, a competitive environment, and profit incentives. The policy environment for market-oriented, private investment is also critically important. It appears that current macroeconomic conditions in Georgia may impede the transition to a functioning market economy. Output has dropped more than 60% in the last 2 years, inflation is rampant, and the budget deficit more than 30% of estimated GNP. Georgia lacks energy for homes, factories and transportation. Inflation is drastic with coupons replacing the rouble. Farmers have refused to accept coupons but demand payment in Russian rubles because they cannot purchase gasoline with Georgian coupons. Nevertheless, farsighted leaders have established a new educational institution focusing on agribusiness and environmental management. In July 1990, a cooperative agreement was signed between the University of Georgia, College of Agricultural and Environmental Sciences (COAES), USA, and the new Centre for Environmental Management and Planning in Tbilisi, Republic of Georgia, to provide Masters level training in free-market economics, entrepreneurship, agribusiness management, marketing, finance, ecology, resource management, micro computer applications, and English language training.

Students at the Centre, ranging in age from 22 to 32, work at their regular jobs in the morning and attend classes in the afternoon. The first 14 graduates completed their degrees in June 1993. Ninety percent successfully presented and defended their theses in English. Their topics included kiwi fruit management, medicinal herbs for export, peach production, table wine exports, and tourism. All thesis topics were related to Georgia's comparative advantage in fruit and vegetable production.

Building a new educational institution is not

easy. The Centre's library resources, data bases and computer facilities are extremely limited. A few textbooks and English language tutorial programs have been donated to the Centre. Nevertheless, the Centre has been growing; it opened a College of Agribusiness, Ecology and Environmental Sciences for undergraduates in 1992. Over 200 students are now studying at the Centre.

An essential part of the Agreement between the Centre for Environmental Management and Planning in Tbilisi and the University of Georgia, USA, has been a series of faculty exchanges. Several University of Georgia faculty have lectured on agricultural ecology, agricultural economics, food science, forestry and American language at the Centre. These exchanges provide the students with new information on the latest technological innovations in agribusiness and environmental management. American specialists have also provided the Centre's administration with recommendations for re-orienting education to meet the needs of a competitive, international market economy. These activities will prepare the graduates and faculty for subsequent study and practical training abroad.

What lessons can be learned from teaching under faculty exchanges in the Caucasus? The challenges of creating a market economy are formidable. Rules that governed the centrally planned economies no longer apply. The legal foundation for Georgia's economy is clearly in transition. Agricultural economists can provide valuable expertise for Georgia's emerging economy by focusing on enterprise costs of production and processing of agricultural products, comparative advantage in agricultural trade, environmental management, marketing, and consumer demand. Developing curricula that involves market-oriented decision-making for agribusiness and farm management is the ultimate goal of the agreement.

4.3.5. Hellwarth, Rask, Frederick, Klein and Williams (Ohio SU, USA)

Training of a novel and more practical type operating in Romania was described by the authors as a means of assisting newly privatised farmers to obtain price discovery experience in

their own environment. Backing came from the International Fertilizer Development Centre (IFDC) under the auspices of the United States Agency for International Development (USAID), with some technical backing from Ohio State University. As a basis for the initiative, a grant of 20 000 tons of hog feed supplies was donated by the USA to Romania, and was then sold at regional sealed bid auctions to private farmers. Pre-auction seminars helped to allay small farmers' reluctance to participate, acquainted farmers with bidding processes, and demonstrated the benefits and use of feed supplies. In May 1993, 641 persons attended the seminars (437 or 68% being farmers) which were held in eight locations chosen largely on the basis of swine populations in their neighbourhoods. The auctions were held in the same places. Auction proceeds were then used for additional purposes including cadastral survey, equipment purchases, and land titling. International feed suppliers were invited to observe auctions to determine private market potential and need for new privatised farm input markets.

At each site, trading sessions commenced at 10:00 and 12:00 h. Quantities offered at each site were divided equally between the two auctions and determined by farmers' participation at the seminars and by concentration of hogs in specific areas. Regional auctions were held on consecutive days, and bidders could attend more than one auction. Bidders' limits were determined by demonstrated financial liquidity (e.g. bank guarantee) within a 10 tonne minimum and 500 tonne maximum. Multiple bids within limits were allowed. Procedures for resolving tied and partially filled bids were established.

Television was the most successful media for advertising the seminars and auctions. Small farmers' participation was affected by long distance to auction sites. Participation in bidding was limited principally by financial or banking (credit) constraints. Restricting participation to private farmers only was time consuming and cumbersome, but it successfully screened off large state farms. Auctions were well received by farmers, bankers, and local and national political and agricultural officials. Farmers rapidly adapted

themselves to the process and discipline of the auction price discovery.

Price discovery followed expected patterns. Generally, bids were lower at the 10:00 h auctions, at the early bid sites, and at the bid sites more distant from product delivery points. With excess demand, bids at the 12:00 h auctions and at the later bid sites reached higher levels as information on earlier auctions became known to subsequent bidders.

The prices realised in June 1993 equated with \$309 per tonne at the official rate of exchange, which was only \$11 below the calculated import parity price of \$320 per tonne. However, 32 of the 77 winning farmers, who took 44% of the feed on offer, were prepared to bid amounts greater than the parity price. The results of the process showed first that Romanian small farmers have a significant demand for high protein feed supplement at prices close to the international level and that they quickly became accustomed to the auction system.

4.3.6. Amponsah (North Carolina Agricultural and Technical SU, USA)

William Amponsah presented a paper with a markedly different slant when speaking about the concept of international distance education and research, of which he had experience at his own university. He argued that the rise of the information age could characterise the dawn of a 21st century renaissance. Strategic technological alliances, based on computer networking which is currently experiencing rapid development, will be forged in many disciplines, and could include formal instructional and research consortia, informal ties and joint ventures. Electronic distance education (EDE) provides one potential linkage by which this technology flow may be realised.

Distance education describes instructional activities which interactively link two or more people at two or more locations separated by space or in time. Recent developments of telecommunications technology in the western world have made distance education a viable alternative to improving access to instructional and research activities for learners. As there continues to be an increased flow of information attitudes toward

production and marketing processes could be influenced far beyond the borders of a given cultural milieu. For the agricultural sector which is undergoing reforms, immense opportunities will be opened up for both students and workers in learning about more successful systems operating in other areas of the world. Inter-institutional partnerships, resource sharing and networking could bring about better information technology management, and direct it towards the delivery of wider knowledge. This is more than teaching by television either by direct transmission or video cassette, valuable though that may be in itself; with modern on-line equipment work can become interactive.

Developments of this type are already linking North Carolina Agricultural and Technical State University (NCATSU) with the University of Fort Hare in South Africa. Under the US Agency for International Development's linkage grants programme, the possibility already exists for any of the universities in the CIS republics to draft a linkage proposal with a United States university. The initial stage would involve a visit to the United States for practical training in distance learning techniques.

Amponsah stressed that the development of an effective distance education programme must include careful consideration of the need for the it, the target audience, and the course content. It also requires a great deal of knowledge of the equipment and techniques involved, securing the necessary finance, and fostering a close relationship between the parties involved at the producing and receiving ends. All of that represents a formidable challenge, though the potential reward lies both in a new style of teaching and in the breaking of the geographic barriers which exist when the teacher must face the class.

5. Concluding comments

5.1. Armbruster (Farm Foundation, USA)

Having listened to the discussion, Walter Armbruster, from his background as Managing Director of the Farm Foundation and Secretary/

Treasurer of the International Association of Agricultural Economists, noted the breadth and complexity of the transition agenda but argued that, whatever the circumstances, the economic factors driving agricultural and rural activity will have similarities across geographic country boundaries. This suggests that research and education should not be formulated and carried out within the isolation of individual countries. Collaboration among researchers, instructors and extension staff across boundaries can make research results and education programmes more useful to agricultural managers and policy makers. Sharing ideas about the teaching of the economics of production and marketing should improve the quality of the educational experience for students and reduce the difficulties of instructors in developing effective teaching programmes. Sharing of ideas, and even teaching materials, can be accomplished through periodic meetings among agricultural economists.

One way in which this can be done is to organise research topic symposia through regional agricultural economics associations. The European Association of Agricultural Economists has used this approach very effectively to treat subjects such as evolving market systems, agricultural organisation and rural prosperity. Pre-conference seminars have been utilised by the American Agricultural Economics Association to explore new research topics, report recent findings, and identify further research needs. The seminars have also been used to share new teaching approaches and to exchange ideas on extension education programmes, again drawing on the most recent research results and identifying emerging issues needing extension education.

Another mechanism used in the United States to exchange ideas and research findings are periodic symposia (very similar to the Kiev meeting) bringing together academics, government officials, agri-business managers and farm leaders. Often the focus is on important agricultural issues under consideration for developing specific policies or legislation. Others deal with analysis of the impact of existing policies and the kinds of change needed to better align them with longer-term economic goals.

A means of facilitating regular, periodic, interchange used in the United States is the regional committee, comprised of agricultural economists meeting annually as a forum for consideration of matters of concern in a geographical area, and perhaps bringing in specialists from outside who can speak in detail about a particular issue and its local impact.

Financing meetings is always a problem though it is clear that government officials and academic or research institute administrators are more likely to sanction expenditure if they can see results that are useful in decision making and have research implications. This implies that any interactions must be well focused on important topics and that their goals should be obtainable within the framework allowed.

So far as countries in transition are concerned local interaction is obviously valuable, but finding the means of interacting with colleagues from other countries and areas of the world is also of considerable importance if isolation is not to occur. Dr. Armbruster concluded by stating that there are colleagues in numerous countries who are ready to assist. That was evident from the symposium attendance, and also obvious in the extent to which various types of technical assistance are being organised. He invited participants to reach out and grasp all possible opportunities for interaction.

5.2. Thompson (*Winrock Foundation, USA*)

Professor Robert Thompson charged, as the President-Elect of the International Association of Agricultural Economists with the task of presenting a synoptic view of the Symposium, began by warmly thanking Academician Sabluk and his colleagues for their initiative and effort in bringing so many people together in an atmosphere both of warm hospitality and friendship. He pointed out that it was not his first visit to the Ukraine, or indeed to the particular room in which meetings were held, though he had immediately noted the vast changes which had occurred in recent years. Earlier his lectures had been confined to farm management; now the discussion was of the contentious and central

issues of privatisation and price formation. It is a discussion which is also taking place against the difficult background of unfavourable macro-economic circumstances in which one of the most vital ingredients (the need for a stable currency) is absent.

He began with privatisation, where much had been learned of the processes through which farmers were being given some stake in the ownership of farm enterprises, even though their form often appeared to be little changed from that previously in vogue. One issue, of major importance, had rarely been mentioned; namely the optimum scale of enterprise in agriculture. In his view it is virtually impossible to lay down any firm rules relating to scale which can, in any sense, be imposed. Where agriculture is truly responsive to the influences stemming from product prices, on the one hand, and factor costs, on the other, market forces determine the size composition of farms. The key mechanism on which that depends is the existence of a land market. If larger scale is worthwhile bids for land in the market will reflect the benefits of expansion, and vice-versa. The enterprise structure which emerges will not necessarily be one of uniformity between regions of any country; there is great scope for variation depending on regional comparative advantage in the potential range of farm products which might be produced.

In addition to that, scale of enterprise is also determined by relative incomes between agriculture and other sectors of the economy. As an economy grows, and at the same time provides expanding income opportunities outside farming, parity of income is unlikely to be maintained unless farms, in general, also expand in scale. Farmers are driven by the need to maintain their relative position; the motivating force is income and not production as such. This is Western experience, and though it inevitably means a reduction in the aggregate agricultural labour force it cannot be avoided. If there is concern that the decline will have unfavourable effects on the economy of rural areas the solution does not lie in agricultural protection, but in the fostering of off-farm employment opportunities for the available labour. The rural economy must not be

regarded simply as being farm based. It must also be remembered that improvements in the rural infrastructure, while they are essential for agricultural progress, are also a key to rural development in the widest sense.

In Professor Thompson's view transition economies do face enormous difficulties in adjusting farm structures away from the scale associated with state and collective forms. However, this appeared to him to emphasise the need not only for the 'personalisation' of ownership shares, but for the allowance of transfer of shares through either rental or sale in appropriate markets, including particularly a market for land. It appeared to be that final move on which a number of countries were hesitating. Paper presenters had often dwelt on the complexities of deriving equitable systems of privatisation, which is only the first step in getting land into new hands. While important it cannot be the end of the adjustment process, since initial allocations must be expected to alter over time in response to emerging economic circumstances, and it is only through the development of mechanisms of sale and transfer that further adjustment can be accomplished.

Professor Thompson also expressed his disappointment that one key feature which would condition future evolution had not been fully discussed. Markets for factors of production, especially land, cannot develop in the absence of credit markets. Their detailed organisation may appear to be a matter for financial experts, but those interested in the next stage of the development of agriculture should be aware of their vital importance, stressing the point with their colleagues, and emphasising that slowness in emergence is an impediment to the reorganisation of farming. Though there is little substance in the view that farmers should have access to credit on more favourable terms than those applying elsewhere, it is also worth noting that many countries have institutionalised farm credit supply in a way which recognises the particular needs of farmers, notably for land purchase which has a long time horizon.

The debate on the supply and processing sectors had also been somewhat muted. Privatisation

of these elements of the agro-industrial complex is important, but the interests of firms serving agriculture are not automatically in accordance with the needs of farmers. There has to be competition for that to be the case, or alternatively farmers who lack power must be encouraged to form their own cooperative organisations to deal in the market on the purchasing and selling sides. Competition is also important in serving the needs of consumers. The point has barely been mentioned, yet it should be immediately apparent that food supply is for the benefit of consumers. That is more than a matter of availability of a sufficiency of food, it also involves choice and quality expressed through the marketing system. It also does not mean that a social safety net can be engineered through the food pricing and marketing systems; that is a separate matter for taxation and social security policy.

Many of the speakers had discussed curriculum development. On that Professor Thompson stressed the paramount importance of training in economic theory, and in the quantitative methods essential for applied work. Students need to understand that successful management, whether of farms or of agribusinesses, requires much more than technical competence in production or processing; it is a matter of appreciating the full implications of operating in market economy with all of its attendant risks, penalties and rewards.

Further points which he emphasised included the need for competition, with the implication that firms must inevitably sometimes fail; that price determination involves both supply and demand; that prices must be allowed to vary over space and time if they are to provide appropriate signals; that 'cost of production' is not an efficient method of price setting even in systems which are not fully liberalised in the sense of being driven solely by free market interaction; that price distortions, already mentioned above, are an ineffective means of securing social welfare; and finally that international trade, based on international prices, is a powerful engine of growth and welfare improvement.

On more general policy matters the point was made that debate is now world-wide. Economies in transition have their own particular problems

stemming from the operation of a planned economy and the legacy which it has left behind. Nevertheless there is also an agenda for reform in the many developed economies where governments have heavily intervened, in the price policy area in particular. It surfaced in the recently completed Uruguay Round of GATT negotiations, which had opened a wide debate on the proper role of government in matters of farm policy. There are lessons from Western experience for the nations in transition, some of which are worth learning, though it is also evident that heavy price intervention, allied to trade restriction and the dumping of surplus production on world markets, has consequences which should be avoided. He saw some evidence, in the papers which had been presented, of a desire among the nations of the East to remain wedded to the idea that agricultural price formation is a matter for governments. That might well appear to be the first impression gleaned from study of many Western economies, and particularly of the near neighbours of the European Union, though he warned that the basic assumption was one which is now heavily questioned.

Given the variety of issues and views which had surfaced during the days of the symposium Professor Thompson was aware that his synopsis was both selective and incomplete. He had not attempted to cover the whole canvass of the educational and research agenda for nations in transition, though he had realised how vast that agenda has become and how vital it is that it should be tackled by the international efforts of those in the agricultural economics profession.

5.3. Sabluk (Institute for Agricultural Economics, Ukraine)

In his final remarks Academician Sabluk noted that the Institute for Agricultural Economics of the Ukrainian Academy of Agricultural Sciences has an important role in formulating economic and financial mechanisms which will play a key part in our future development. Its members have worked extensively on the issues of privatisation and pricing policy, work on marketing is beginning, and it is also anticipated that the Institute will have the important function of monitoring

new developments as they occur. In those efforts the cooperation of Iowa State University (USA) has been secured, and the help of colleagues from America has been greatly appreciated. Creative cooperation with scholars of the Russian Federation, Belarus, Kazakhstan, Georgia, Moldova, Latvia, Lithuania and Estonia is also taking place. This enriches science and enhances its impact on social and economic processes. There is awareness of the problems which must be faced. Part of their solution lies in education and training. There is a large network of universities, institutes, colleges and agricultural technical schools in our country which can cope with this task if fully supported and allowed to make use of foreign experience. We also appreciate that the practice of agricultural extension work can have an important impact on the efficiency and prosperity of farming.

Our approach should be to build up partnerships. This is vital in trade, where we support ideas put forward on other occasions by our Russian colleague Academician A.A. Nikonorov, who has stressed the importance not only of Western but of Eurasian markets. It is equally imperative to have intellectual associations, and it is profoundly notable in economic sciences. No political slogans, appeals, or compromises can replace economic analysis and a reasoned economic outlook. We have for too long been forced to endure a situation in which state institutions have been unwilling to give us adequate backing or to listen to our voice. The messages of support which we received from our President and government, delivered at the start of this Symposium, are indicative of change. We have been delighted to welcome you, to offer our hospitality, and particularly to hear your views. Our hope now is that there will be future occasions on which we can participate in meetings organised through the International Association of Agricultural Economists and maintain our new and valued contacts.

Paper presenters

(Note: Some intending participants were unable to be present at the symposium. Where full pa-

pers, or extended abstracts, had been made available they are included, with absence being denoted with an asterisk.)

Urgent problems of agrarian reform

Csaba Csaki and S.R. Johnson, World Bank, Washington, USA and Iowa State University, Ames, Iowa, USA, Experience of the World Bank in Studying Agrarian Economic Systems in the Countries of Eastern Europe and the Former Soviet Union.

P. Sabluk, Institute for Agricultural Economics of the Ukrainian Academy of Agricultural Sciences, Kiev, Ukraine, Special Features of Agricultural Reforms in Ukraine.

Alexey Onischenko, Economics Institute, Ukrainian Academy of Sciences, Kiev, Ukraine Peculiarity, Conception and Mechanism of Modern Land Reform in the Ukraine.

I. Lukinov, Institute for Agricultural Economics of the Ukrainian Academy of Agricultural Sciences, Kiev, Ukraine, Tendencies in Agricultural Transformation in the Ukraine and in an Eastern European Context.

A.A. Nikonorov, Agrarian Institute of the Russian Academy of Agricultural Sciences, Moscow, Social and Economic Problems at the Second Stage of the Agrarian Reform of the Russian Federation.

V.R. Boev, All Russia Institute of Agricultural Economics, Moscow, The Economic Mechanism of Agrarian Reform in Russia.

Alexander Shpychak, Institute for Agricultural Economics, Ukrainian Academy of Agricultural Sciences, Kiev, Ukraine, Product Pricing Under Transition in the Ukrainian Agro-Industrial Complex.

M.I. Lugachov, Moscow State University, Moscow, Russia, Agriculture in Transition: Security, Property, Freedom of Business and Time.

Nikolai Demyanenko, Institute for Agricultural Economics, Ukrainian Academy of Agricultural Sciences, Kiev, Ukraine, Financial Relationships Under Transition to a Market Economy.

Harm tho Seeth, Department of Food Economics and Food Policy, University of Kiel, Kiel,

Germany, Agricultural Policy Reform and Food Security for the Poor.

Victor Krestovsky, Byelorussian Institute of Economic Problems of the Agro-Industrial Complex, Minsk, Byelarus, Problems of Agrarian Reform in the Republic of Byelarus.

Sergey Chertan, Moldovian Research Institute of AIC Economics, Kishinev, Moldova, Organisational Transformations in the Agro-Industrial Complex of Moldova.

Sergey Kazaryan and Gevorg Mkrchyan, Armenian Research Institute for Agricultural Economics, Yerevan, Armenia, The First Results of Land Reform in Armenia and the Tasks for Agroeconomic Science .

Comparative analysis of reform experience

Tadeusz Hunek, Polish Academy of Sciences, Warsaw, Poland, Intercountry Economic Cooperation within Central and Eastern Europe in the Process of East-West Integration.

Edvardas Rudys, Lithuanian Institute of Agrarian Economics, Vilnius, Lithuania, Some Aspects of Agrarian Reform in Lithuania.

Nir Becker, Environmental Research Centre, University of Haifa, Haifa, Israel, The Value of Institutional Change in Moving From Central Planning to a Market System: Implications for the Israeli Water Sector.

Werner Schubert, Economic Consultant, Krausenstrasse 38/9, Berlin, Germany, Producers Cooperatives in the Agriculture of the New States of the Federal Republic of Germany.

B. Erasmus and J. Hough, Department of Business Economics, University of Pretoria, South Africa, The Impact of Management Challenges on Commercial and Subsistence Farmers in a Changing South African Environment.

Zoran Njegovan, Economics Institute, Belgrade, Yugoslavia, Agricultural Research and Technology in Yugoslavia.

Nebojsa Novkovich, University of Novi Sad, Faculty of Agriculture, Institute of Agricultural Economics & Rural Sociology, Novi Sad, Yugoslavia, A Comparative Analysis of Yugoslav and Japanese Agricultural Extension Services .

Educational and training aspects for reform

Economic theory

G.H. Peters, International Development Centre, Queen Elizabeth House, University of Oxford, Oxford, UK, Capitalism and Markets in a Western Context.

Maureen Kilkenny, Department of Economics, Iowa State University, Ames, Iowa, USA, Teaching Market Capitalism Without Selfishness.

* Milton S. Boyd, University of Manitoba, Winnipeg, Canada, Research Issues in Developing Standardized Commodity Markets: Application to Reforming Countries.

Heinrich Hockmann, Institute for Agricultural Economics, University of Gottingen, Gottingen, Germany, The Influence of Public Research Policies on Private Firms' Research Incentives.

Curriculum development

Robert L. Beck, University of Kentucky, Lexington, KY, USA, A Competency-Based Approach to Curriculum Development.

David L. Watt, North Dakota State University, Fargo, ND, USA and Robert O. Burton, Jr., Kansas State University, Manhattan, KS, USA, Future Priorities and Agenda for Farm Management Research and Implications for Transitional Economies.

M.L. (Mel) Lerohl and Glen A. Mumey, University of Alberta, Edmonton, Canada, Agricultural Business Management: The Emerging Agriculture-Business Curriculum.

* Paul H. Gessaman, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, Lincoln, NE, USA, Goal-Directed Management in Farming: A Decision System for Financial and Production Management.

Elisabetta Croci-Angelini, University of Siena, Siena, Italy, University Education in Agricultural Economics: The Experience of the European Community.

Liu Wen-Pu and Zhang Xiao-Shan, Rural Development Institute, Chinese Academy of Social Sciences, Beijing, People's Republic of China, The State of Education and Research in Agricultural Economics in Reforming China.

Donald Erickson, Extension Agricultural Economist, Kansas State University, Manhattan, Kansas, USA, Economics of a New Enterprise.

Danilo Tomich and Dusan Radmanovich, Institute of Agricultural Economics, Belgrade, Yugoslavia, Managers' and Entrepreneurs' Education: A Precondition for a Successful Transformation of Agriculture in the Ex-Socialist Countries.

Sandor Somogyi and Jozsef Kocsandi, Pate Georgicon Faculty of Agricultural Science, Keszthely, Hungary, The Transition of Hungarian Agriculture and the Tasks for Agricultural Education and Research.

* Bong Kyu Choo, Seoul National University, Suwon, Korea, Recommendations for Development of Agricultural Economics Research and Education in the Reforming Countries.

* M. Lutfor Rahman, Department of Agricultural Finance, Bangladesh Agricultural University, Mymensingh, Bangladesh, Development of Agricultural Economics Education and Research in Bangladesh.

Experience in the provision of training programmes

Iain McGregor and Michal Sznajder, Scottish Agricultural College, Ayr, UK and Agricultural University of Poznan, Poland, An Integrated Approach to Education, Research and Extension Services in Scotland and its Application to the Provision of Training Packages in Poland.

* Simon Scanlan, Scottish Agricultural College, Edinburgh, UK, The Experience of a Centre in Moscow Funded by the European Community.

Bill R. Miller, University of Georgia, Athens, GA, USA, Henry M. Bahn, Marketing Extension Service, USDA Washington, DC, USA, Miroslaw Drygas, Ministry of Agriculture and Food Economy, Warsaw, Poland and Charles H. Rust, Montana State University Bozeman, MT, USA, Economic Education in a Non-formal Setting: Agricultural Business Plan Training in an Emerging Democracy and Market Economy.

Glenn C.W. Ames and Claudia Davis, University of Georgia, Athens, GA, USA, In Support of Reform: Educational Resources and Needs in Agribusiness Management in the Republic of Georgia.

Galen Hellwarth, Terry Frederick, Maurice

Klein, Norman Rask and Lewis Williams, Ohio State University, USA and The International Fertilizer Development Centre, Bucharest, Romania, Private Farmer Price Discovery in a Transition Economy, Sealed Bid Auctions in Romania.

William A. Amponsah, North Carolina Agricultural and Technical State University, Greensboro, NC, USA, Perspectives on International Distance Education and Research.

Concluding comments

Walter Armbruster, Farm Foundation, Oak Brook, IL, USA, Cooperating Across Countries in Research, Instruction and Extension.

Robert L. Thompson, Winrock International, Morrilton, AR, USA, President-Elect of the International Association of Agricultural Economists, A Summary of the Symposium.

P. Sabluk, Institute for Agricultural Economics of the Ukrainian Academy of Agricultural Sciences, Kiev, Ukraine, Final Remarks.

Papers made available in abstract form

Vadim Alexandrov, State Agricultural University, Kharkov, Ukraine, Main Computerization Issues in the Education System in the Ukraine.

Alexander Babenko, Institute for Agro-industrial Production, Donets'k, Ukraine Labour Market Formation in the Rural Sector.

Victor Boyko, Institute for Agricultural Economics, Kiev, Ukraine, The Ukraine in the Food Market.

Alexey Buhutsky, Institute for Agricultural Economics, Ukrainian Academy of Agricultural Sciences, Kiev, Ukraine, The Problem of Labour Motivation and a Manpower Market.

Ivan Chepurnov, Ukrainian State University of Food Technologies, Kiev, Ukraine, Reform in the Processing Branches of the Agro-Industrial Complex of the Ukraine and Management Training.

Nikolay Fedorov and Nikolay Snopok, Institute for Agricultural Economics, Kiev, Ukraine, Problems of Reforming Land Relations in the Ukraine.

Jong Moo Kim, Sung Kyun Kwan University, Suwon, Korea, The Development of Korean Agriculture with Special Reference to Education.

Vadim Kirillov and Vadim Alexandrov, Institute for Agricultural Economics, Kharkov State Agrarian University, Kharkov, Ukraine, Computer Aided Whole Farm Business Planning and Management in Transition to Market Relations in the Ukraine.

Mikhail Kropivko, Institute for Agricultural Economics, Kiev, Ukraine, In Support of Reforms: Information Systems for Ukrainian Agriculture.

Nikolai Malik, Yuri Lupenko, Alexander Pilipchenko, Nikolai Polishchuk and Vladimir Pulim, Institute for Agricultural Economics, Kiev, Ukraine, Economic Relationships in Enterprises.

Alexander Melnik, Eugene Orel and Natalia Stepanets, Institute for Agricultural Economics, Ukrainian Academy of Agricultural Sciences, Kiev, Ukraine, Forms and Methods of International Scientific and Technological Cooperation with Organisations of the Agro-Industrial Complex.

Victor Mesel-Veselyak, Institute for Agricultural Economics, Kiev, Ukraine, Farming Development in the Ukraine.

Valentin Pelishenko, Institute for Agricultural Economics, Kiev, Ukraine, Entrepreneurship as an Economic System.

Gleb Podlisetski, Institute for Agricultural Economics, Kiev, Ukraine, The Material and Technical Basis and Investment Policy in the Ukrainian Agro-Industrial Complex.

Mykhailo Priymak, Institute for Agricultural Economics, Ukrainian Academy of Agricultural Sciences, Kiev, Ukraine, Ukrainian Agriculture and the World Market.

Natalia Rilskaya, Institute for Agricultural Economics, Kiev, Ukraine, Some Aspects of Seed Market Reform In the Ukraine.

O. Ryabchik, Institute for Agricultural Economics, Kiev, Ukraine, The Need for the Develop-

ment of Intra-Farm Commodity and Monetary Relations.

Mikhail Shchur, Institute for Agricultural Economics, Kiev, Ukraine, Structural Changes in Agricultural Production in the Transition to a Market Economy.

Hans-Hennig Sundermeier, Christian-Albrechts University, Kiel, Germany, Management Information Requirements and Information Management for Agricultural Firms.

Ivan Topikha, Livestock Research Institute of the Steppe Regions, Ukrainian Academy of Agricultural Sciences, Askania Nova, Ukraine, Sheep Production Under Market Economy Conditions.

Valentin Tregobchuk, Economics Institute, Ukrainian Academy of Sciences, Kiev, Ukraine, Environment and Agriculture Under New Farming Conditions.

Nikolai Udvuchenko, Petro Laiko, Nikolai Nesterets, Mikhail Orlaty, Ivan Prokopa and Katerina Yakuba, Institute for Agricultural Economics, Kiev, Ukraine, Forming New Social Conditions in the Rural Sector.

V.V. Urchishin, Institute for Agricultural Economics, Kiev, Ukraine, Peculiarities in the Development of Property Relations in the Agrarian Sector of the Ukraine.

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